

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 321.—VOL. XI.]

LONDON: SATURDAY, OCTOBER 15, 1841.

[PRICE 6D.

PITT'S TANFIELD MOOR COLLIERY, and PROPERTY, at WINLATON, in the county of Durham.

TO BE PEREMPTORIALLY SOLD (pursuant to a decree of the High Court of Chancery, made in a cause of "Davis v. Pitt," with the approbation of Sir Gill Wilson, Knight, one of the Masters of the said Court), at the Public sale room, Southampton-buildings, Chancery-lane, London, on Wednesday, the 10th day of November next, between the hours of One and Two in the afternoon, all that well known current-going sea-sale COLLIERY, called

PITT'S OLD TANFIELD MOOR, together with all the establishment, of dead and fixed stock, of machinery, work-shops, granaries, stables, storehouse, agents' and workmen's houses, &c., complete, for carrying on the same, late the property of Wm. Morton Pitt, Esq., of Kingston House, in the county of Dorset, deceased.—The colliery is situated in the chapelry of Tanfield, in the county of Durham, and contains upwards of 1,500 acres of coal ground, in which several valuable seams of coal have been found by boring from the present working seams, and which may be "won" and worked at an easy expense. The coals are shipped by the Brandling Junction Railway Company by their drops at South Shields, on the river Tyne; they are of excellent quality, and bear a high price in the London market; they are also fit for the foreign export-trade. The machinery and working pits are in a good state of repair, and the purchaser may enter immediately on completing the purchase and carry on the colliery, without being called upon to make any further advance of capital beyond the amount of the purchase-money.—Also, a portion of the LORDSHIP of WINLATON, in the said county of Durham, which has produced an average yearly income, for ten years ending May-day, 1840, of about £450.

Printed particulars and conditions of sale may be had (gratis) at the said Master's chambers, in Southampton-buildings; Messrs. Oliverson, Denby, and Lavia, Frederick's-place, Old Jewry, London; Messrs. Combs and Son, solicitors, Duxbury; Morris, Farter and Co., Lincoln's-Inn-fields; Messrs. Richards and Walker, Lincoln's-Inn-fields; Mr. Buddle, colliery viewer, Newcastle-upon-Tyne; and of Mr. Benjamin Ariless, Tanfield Moor Sitting-office, Newcastle, who will show the property. OLIVERSON, DENBY, and LAVIA, Plaintiffs' solicitors.

FOREST OF DEAN.—PARK END COLLIERIES and IRON-WORKS, and NEW FANCY COLLIERY, the property of Edward Protheroe, Esq.,

TO BE SOLD, BY PRIVATE CONTRACT, the PARK END COAL-WORKS, which have been long known as the most important and productive in the Forest of Dean, and, in consequence of the advanced age of the proprietor, are now offered for sale, the legal title having just been made clear under the provisions of a late Act of Parliament, and an increased quantity of coal awarded to the property. The works are situated close to the Severn and Wye Railway, which affords a direct conveyance to both those rivers, and the various canals and railways connected with them, and more particularly to the manufacturing districts of Gloucester-shire, and the great markets of Gloucester, Cheltenham, Oxford, Bristol, Bridgewater, and Cork. The inspection of any geological or mining map of England, will at once show that the central position of the coal-field of the Forest of Dean naturally commands the supply of a very large portion of the western counties of England. The acknowledged superiority of the coal is rapidly increasing the demand, and the present large sale must be greatly extended when the important railways now in progress, and the local improvements contemplated, shall be completed. The award of the commissioners under the Dean Forest Mining Act divides these coal works into three portions.

—THE PARK END COLLIERIES, comprising the Park End Main, Park End Royal, Ivy Mountford, Birkens Well, and Brockhall Ditches Pits (worked by seven steam engines); in six veins of coal, of which nearly 5,000 tons are calculated to be now worked. Even in the last year, about 5,000 tons were sold from this colliery, which has an advantage over contract for supplying the Park End Iron furnaces with coal.—The purchaser of the Park End Colliery will have the great advantage of commanding business immediately without any outlay, and with houses for agent, manager, and workmen, powerful Steam engines, in the best order, pit and railway waggon and horses, and the whole plant, stock, and accommodations of the mining and trading concerns, together with formed connections in an established business.

—THE INDEPENDENT LEVEL, a small detached colliery, in three veins, now in work, and capable of yielding about 12,000 tons a year.

—THE NEW FANCY COLLIERY, with three pits, now in progress of opening, new engine, and various useful buildings. This important work is situated in the very best part of the coal field, and has the peculiar advantage of being easily made to communicate with either of the present railways, or a central line. It contains about 50 acres of untouched coal, in six veins, and will be confessedly the largest and finest colliery in the forest.

The whole of the above collieries are freehold, and pay a royalty of 2d. per ton on the coal as worked, or very low dead rents; any spirited individual or company taking the whole, would obtain an almost unlimited trade and power of supply, but either of the works would be sold separately. Liberal accommodation is payment by instalments, if desired, will be off used.

THE PARK END IRON FURNACES and WORKS, with very extensive and valuable IRON MINES, are also offered for sale. They are let to the Forest of Dean Iron Company for a term, of which twenty-six years will be unexpired on the 25th of March next, at the rent of £700 per annum, but as nearly £500 have been expended in forming these works, and almost unexampled success has attended the making of iron both in quantity and quality, the reversionary value of the property must be very great.

To treat for the whole or any part of these properties, apply to Mr. Thomas Nicholson, Lydney, agent to the proprietor; or to Messrs. James and Son, solicitors, Newnham; or Messrs. Tilson and Co., solicitors, Coleman-street, London. If desired, a personal conference may be had with the proprietor, at Hill-house, Newnham.

TO COAL PROPRIETORS, ENGINEERS, AND OTHERS.
TO BE SOLD, BY PRIVATE CONTRACT, FOUR excellent double-acting condensing STEAM ENGINES, of 28, 11, 6, and 4-horse power respectively; the whole are in excellent condition, and have been recently at work. For further particulars, or to treat for the purchase, application may be made to Mr. Woodhouse, colliery viewer, Overdale, near Ashby de la Zouch.—Oct. 12.

TO MINERS AND OTHERS.

ON SALE, by PRIVATE CONTRACT, a PUMPING ENGINE for pumping water, with expansion valves, hand gear, &c., 40 inch cylinder, nine feet stroke, with pump, &c., two plunbers, twelve inches diameter, eleven feet long, clock pieces, pump rods, and 10 yards of column pipes, nine inches diameter, have only been at work about twelve months, and are to be disposed of in consequence of the water being "tubbed" out. Any parties wishing to purchase will find this a bargain, as it is situate near the Duke of Bridgewater's Canal, and could be shipped to any port; for particulars, apply to John Lancaster and Co., Patricroft Colliery, near Manchester.

TO MINERS, ENGINEERS, COAL PROPRIETORS, &c.
ON SALE, by PRIVATE CONTRACT, at the RHYDYMWYN FOUNDRY, near Mold, a great variety of MATERIALS adapted to Mining purposes, consisting of pumps or rives of all sizes, plunger poles, working barrels, cast and H-poles, studding bars, and chains, iron rods, iron plates and bolts for wooden rods, flat rods, &c., &c.—For price, apply to Mr. John Arthur, at the works, Rhydymwyn, Oct. 12.

WANTED, for an extensive iron-works, a first-rate Engineer, to take the entire charge of the Engines and Machinery, in all its different branches. As a liberal salary will be given, it is requested, to save trouble, that no person, who is not scientifically and practically competent will apply. Letters unanswered, post paid, to "A. H." at Messrs. Bailey's, stationers, Cornhill, London, will receive attention.

ANDREW SMITH'S PATENT WIRE ROPE, for standing rigging, lightning conductors, strapping of blocks, mining, railway, and general purposes; about half the size and weight of hempen ropes, and far more cheaper. Testimonials to that effect, with specimens, may be seen, and every information obtained, at the office, 14, Old Broad-street, City, &c., Princes-street, Leaden-hall-square, manufactory, Mill-wall, Poplar; and also of the following agents:—

Robertson and Co., 12, Grace-Piazza, Liverpool.
Matthew Dunn, Newcastle-on-Tyne.
Joseph Bothway, Plymouth.
John Thompson and Co., Wigton.
J. T. Trevelles, Tredegar.
Thomas Mooney and Son, Dublin.
Perrin and Nolan, Cork.
Coxon and Young, Belfast.
James Kidder and Co., Glasgow.
James Goss, Leith.
J. M. Brooks, Chancery-lane, High-street, Doncaster.

ANDREW SMITH'S PATENT WIRE ROPE. This rope has been in use for standing rigging in her Majesty's Navy, and in a great number of merchant vessels, for squares of six yards, and is giving the highest satisfaction; the rope is also employed in various mines and collieries in different parts of the kingdom, but reference is particularly made to the Blackwall Colliery, where the capabilities have been most severely tested, for although it has been in use for upwards of twelve months it has never broken, and continues to give entire satisfaction.—Find following extract from directors' report at late meeting of proprietors:—

"The service of this wire rope has been attended with complete success; it has never broken, although some parties have been in use for twelve months. In working the Blackwall with wire rope, care has been observed in winding the coils, produced upon it, and the engineers have therefore advised that it should prevent fraying. But they are satisfied that so long the rope does not get entirely separated from the sheave, except as far as a small portion may be required to afford the necessary elasticity in starting the train; when this is accomplished, a great reduction in the several expenses, as compared with the hemp rope, will be effected."

THE MINERS' COMPANY.—The Court of Assistants of the Governor and Company of Copper Miners in England hereby give notice, that the HALF YEAR'S DIVIDEND, declared this day, will be payable at their office, No. 47, Old Broad-street, on Thursday, the 21st Inst., and on following days, from Eleven till Three o'clock.

Office of the Governor and Company of Copper Miners in England,
Old Broad-street, London, Oct. 6.

UNITED HILLS MINE COMPANY.—The directors of this company hereby give notice, that a DIVIDEND of TEN SHILLINGS PER SHARE has been this day declared, the payment to commence on Thursday, the 21st Inst., between the hours of Eleven and One o'clock, and to be continued on every subsequent Thursday. The shareholders to leave at the office of the company, on or before the Tuesday previous to the day of payment, a list of their shares, with numbers and amount of the same.

By order of the directors,
3, Adam's-court, Broad-street, Oct. 7.
JAMES SMITH, Sec.

TALACRE COAL AND IRON COMPANY.—The following report, submitted by Mr. Ashurst, was read at the Adjourned Special General Meeting of proprietors, held at the offices, 26, John-street, Adelphi, on Wednesday inst., the 13th inst.

TO MESSRS. CHAPPELL, TAYLOR, AND HANSDALE, THE PRESENT ACTING LONDON DIRECTORS OF THE TALACRE COAL AND IRON COMPANY.

GENTLEMEN.—You are aware, from the correspondence between myself and Mr. Alderman Thomas Wood's firm, of Wood and Ellis, which I have already submitted to you, that those gentlemen have declined to deliver the deed and papers in their hands belonging to this company, unless their bills of costs, amounting to £1000, be paid, and that they claim a lien upon those deeds and papers for that amount, which is exclusive of the sums they have already received, and that I have not seen the original documents in their hands, with the exception of the deed said to constitute this company. I now proceed to report, agreeably to your request, the result of my examination of the papers relative to the affairs of this company. From the documents and papers I have seen, and the inquiries I have made, it appears to me, that the prospectus issued by those who originated this company contained exaggerations and mis-statements, and that the arrangement for concealing the company and purchasing the mines (the work which the company was professedly formed) was the result of a scheme for raising a property of little value in itself, into a great fictitious value, selling it at that fictitious value to the company, and sharing the price amongst those who were party to the arrangement.

It appears that in January, 1839, Mr. Lewis Lovason, a dentist at Cheltenham, and a Mr. George Frederick Baker, held from the late Sir E. Mostyn, Bart., a lease of a mining property in the parish of Llanasa, in Flintshire, called the Talacre or Pictos Mine, reserving a sweeping rent and royalties, that no premium was paid for this lease, that the property claimed had been previously worked, and, as it would appear, exhausted or nearly so. This lease to Lovason and Baker was for thirty-one years, from the 20th Sept., 1838, of a peppercorn rent for the first year, and no royalties were to be paid for that first year. It is to be inferred from this that no fruits were expected either in the lease or in the first year. The application for the lease appears to have been made in Sept., 1836, and the lease to Lovason and Baker dated the 1st Jan., 1839. It does not seem likely, that any considerable expenditure could have been made, at least by Mr. Baker, for it appears by a pice which Mr. Alderman Thomas Wood, of the firm of Wood and Ellis, pleased in an action brought aginst Mr. Chappelow, to recover the amount of one of the bills said to be given by the directors to Mr. Baker, that Mr. Baker had been twice paid, twice, and had not paid such a dividend as was essential to enable him to trade. The fact before mentioned, that the mine was leased upon a peppercorn rent for the first year—viz., September, 1836, to Sept., 1839, and that no royalty was to be paid until the second year, should be borne in mind, because it shows that no value was attached to the lease, except such value as might be extracted by the expenditure of capital. With reference to the purchasing and conveying of the property, though there are some apparent incongruities in the documents and papers I have found among the company's papers, and otherwise obtained, they all agree in this, that the interest in the lease of the Talacre or Pictos Mine, which was granted by the lessee without premium in January, 1839, was charged to the company in October of that year, at £1,000 in cash and free shares, those shares being fixed to be taken as against the company, as paid up shares, in addition to the sum alleged to have been laid out upon it in workings, and bearing interest against the company as though cash had been paid for them. It was, of course, extremely improbable, after this, that the *dead-fide* shareholders should realize any profit, for they were to supply all the capital, to pay interest on the amount of the free shares, and the profits were then to be distributed equally to the *dead-fide* shareholders and those who had advanced nothing. I proceed now to state the steps which appear to have been taken in raising the appearance of value in the property, and conveying it to the company. I find a report dated Jan. 1, 1839, which I believe to be signed by Mr. Alderman Thomas Wood, of the firm of Wood and Ellis, and in an action brought aginst Mr. Chappelow, to recover the amount of one of the bills said to be given by the directors to Mr. Baker, that Mr. Baker had been twice paid, twice, and had not paid such a dividend as was essential to enable him to trade. The fact before mentioned, that the mine was leased upon a peppercorn rent for the first year—viz., September, 1836, to Sept., 1839, and that no royalty was to be paid until the second year, should be borne in mind, because it shows that no value was attached to the lease, except such value as might be extracted by the expenditure of capital. 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The cargo is at present "up" "no," "this," "is very bad work," he reports on the 4th of July, "we have nearly right foot water in the sides." It appears that the freight of the coal to Dublin was to be done above charged to the ton, exclusive of cartage, &c., yet I find that it is stated in the prospectus, that the shipping expenses, and freight of coal to Dublin, is £1. to £4. per ton. On the 4th of May, and while, as it would appear, Messrs. Weston, Pottiger, and Davis, were at Dublin, a handbill appears to have been issued in these words:—

"PALACE COAL AND IRON COMPANY."

"The first cargo of this superior coal has this day arrived, to which the attention of all consumers is particularly invited, and from their excellent quality they will merit general approbation. Early application will be necessary to secure consumers' shares, as the list is rapidly filling up. By order,

"22, Pottiger-street, 25th May, 1839.

"W. CLOUTON, Secy."

"N.B.—Vessel lying at Eden Quay. A second cargo of 200 tons is expected in the course of next week."

This handbill was obviously intended to lead to a belief that these coals had been raised from the company's pits, but the truth appears to be, that they were purchased from Lovason and Baker, who were then in possession of another colliery. The handbill, whatever may have been the intention of those who issued it, was a deception. As an instance of the means taken to procure shareholders, I find that it appears the coal sent to Dublin was in some instances sold at 10s. per ton, but that the sum paid for coal by the company to Lovason and Baker per ton was £1. 2s. 6d., *carriage included*, and that the freight of the first cargo was no. 6d. per ton, exclusive of duties, allowances, loading, &c., showing that coal were delivered and sold at about two-thirds of their cost. The visit of Messrs. Weston, Davis, and Pottiger to Dublin, and the issuing of the previous handbill, was followed by the visit of Mr. Alderman Thomas Wood to Dublin, and a public meeting was then held in Dublin, the proceedings of which meeting appear to have been reported in the *Dublin Mercantile Advertiser* of 19th July, 1839, for I find an abridged prospectus of the company, containing extracts from the speech of Mr. Alderman Thomas Wood, purporting to be taken from that paper, in which that gentleman is reported to have stated, that "the company's property comprised a district of 2000 acres, running over a field of rare character—that in the same place was to be found iron ore of extreme richness—that he would first draw their attention to the coal which lay in abundance at the mouth of the pits, and were only waiting tramroads to afford a facility for shipping it—that an opportunity of trying the coal was furnished, for there were then two cargoes in the river—that the proprietors would certainly not be liable for anything beyond their investment." Now, if it appears from other documents, that the coal at the Talaore pit was not even reached till the 21st of June, and that none was sent to Dublin until September, and it turned out then to be a most inferior article; and the knowledge that it was so appears to have reached the directors, for I find a letter from Mr. Warwick Weston to the manager of the mine, dated the 16th August, 1839, conveying an extract from a letter written by one of the directors, stating that a gentleman who had been at the works, and who, previously to his going there, ordered a large number of shares, had returned dissatisfied with what he had learnt, and had refused to take them. The extract which is sent by the London director to the manager is in these words:—"I am much annoyed by the circumstance of Mr. Gorman, who had ordered a large number of shares of both kinds, having visited Talaore, has returned strongly prejudiced against the whole concern." He was told at different parts that we had no coal yet—that any sent to Dublin was a fraud upon the public, as they were purchased from others; however, he went on to Talaore, and he reports that the coals he saw there would not be purchased here at all; he has withdrawn his application, and induced Mr. Ralling to do so likewise—what I apprehended most was that he might convey his impressions to the public. I waited on him, and assured him that they must be erroneous, as some most intelligent and cautious persons had subscribed limitedly in the first instance, increased their number fourfold, after having visited and examined the works; he promised not to say anything on the subject, but declined taking the shares. I trust the cargo coming from our new pits will be as like what is here as possible; they had better, in shipping, reject all coals that are covered with red, white, or yellow streaks, which is what Gorman complains of." If the director who wrote this letter was really sincere in his desire to conduct the company beneficially for the shareholders, why should he desire to conceal such a report? One would have imagined that he would have immediately set to work to ascertain the truth of the report, but instead of this he remains—"what I apprehended most was that he might convey his impressions to the public," and means are suggested, not to get at, but to disguise, the truth. He says—"I trust the cargo coming from our new pits will be as like what is here as possible; they had better, in shipping, reject all coals that are covered with red, white, or yellow streaks, which is what Gorman complains of." The London director, in transmitting the copy of this letter to the manager of the mine, quite concurs with the Dublin director in regarding over this fact. It shows, too, that the assertions in the prospectus, as to the quality of the coal, were unfounded. He says—"I send you annexed a copy of a letter, received this day, from Mr. Fottrell, of Dublin, which surprises me much, as Mr. Gorman had engaged shares and debentures largely, and I fear his declining to take them may induce others to follow his example, so that it is necessary to counteract the malignant influence." I think if you were to write Mr. Fottrell (of Laffey street), and explain to him that Mr. Gorman is mistaken as to the information he obtained, and what "he was told at different parts," as well as to the quality of the coal. By the above you may be assured you have some evil disposed neighbours, who are doing all the mischief they can, and our best answer to all their false assertions, will be by arriving at the second seam as quickly as possible, and convincing all parties that there is good coal in abundance. I am impudent to hear this. I hope the coal at the second seam will be what will please our Dublin friends; pray let us hear when you get at them."

From this letter, and what follows, it is for you to judge whether the then acting directors were conscious that the coal from what they called the first seam, and which they had represented to be at moderate depth and of excellent quality were of an inferior description, it does not appear that the second seam was ever reached. On the subject of the quality of the coal, upon which, of course, the interests of the company entirely depended, I find that the directors circulated, in the subsequent editions of the prospectus, a certificate, dated 10th July, 1839, of Mr. Edmund Davy, Professor of Chemistry, Dublin, strongly praising the coal submitted to him, and which certificate was advertized as applicable to the Talaore coal; but it seems very evident that the coal, if from the company's pits, could not have been a fair specimen, for it will be noticed that this certificate is dated the 10th July, 1839, and that the letters of the two directors are dated in August, the month after; and that the Dublin director, in his letter, urges that the objectionable coal should be rejected. It also appears that Lovason and Baker, who had been appointed managers, wrote to Dublin on the 2nd July, dissuading the directors from sending the Talaore coal to Dublin, as it was under water.

It appears from the copy minutes, forwarded from Dublin, that an order had been given by the directors, at a meeting held at Dublin, on the 10th July, 1839, Mr. Alderman Thomas Wood in the chair, directing that a cargo of coal should be sent to Liverpool, provided the same could be done from the new pit (meaning the Talaore); but that, on the 20th of that month, the directors resolved that a vessel should be chartered immediately for Liverpool, to be loaded from the Bryn Colliery (which did not belong to the company, but to Lovason and Baker), and the order transmitted by the Dublin secretary is in these words:—"You will also please charter immediately a vessel for Liverpool, of about seventy or eighty tons, and load her with coal from the Bryn; let them be particular, and have them well packed, as it is the first." There appears in the London letter-book a copy of a letter to Messrs. C. and R. Elliott, Liverpool, to whom these coals are ordered to be consigned, instructing them to publish advertisements when these coals arrive, and the form is sent in these words:

"PALACE COAL AND IRON COMPANY."

"A cargo of these superior coals is just arrived per ——, which public is invited to examine, also Professor Davy's of the Royal Society of Dublin's opinion theron.—Applications for shares and consumers' debentures may be made to Messrs. Elliott, No. 17, George Place, Exchange street East, where prospectuses and every other information may be obtained."

I find that Lovason and Baker shipped the coals from the Bryn Colliery in Liverpool, and that there appears among the papers an invoice of coal supplied by Lovason and Baker to the company from the Bryn, including this shipment, and a check for the balance due in those upon that invoice, and a quarter's salary to them as managers of the company's colliery, signed by Wood, Weston, and Davis, and the secretary. It appears by the minutes that these coals were ordered by the directors to be shipped by Lovason and Baker from the Bryn, in consequence of a letter received from Lovason and Baker, dated the 2nd July, 1839, in which letter they informed the directors that the coal from the new pit did not look as well as the Bryn coal, being yet under water, though the writer adds, I think, a much stronger and better coal for heating. I would not advise them for Belfast, as their impression is a great way. In a few weeks we shall get rid entirely of the water, and be able to ship freely from our new pits." A second cargo appears to have been sent to Liverpool and one to Kent, and I find amongst the papers of the company a letter from Mr. Godding, a respectable broker of Liverpool, who had been employed to sell shares, dated the 23rd October, 1839, from which the following is an extract:—"My family has been a day or two from Kendal, and complain highly of the quality of the coal, which he says is small and full of dirt and ash, that they do not know what to do with it, and that it is a death-blow to the concern, so far as Kendal is concerned." Mr. Godding and myself have endeavoured to examine him that this will not be the case when the works are in a more forward state, but I fear it will have the effect of preventing many from having any thing to do with it. I can readily credit all Mr. Gorman's stories. So, certainly, the last cargo I had was about as inferior and dirty a lot of coal as I ever saw—indeed, so much so, that before it was all to be used out, I was compelled to have it all railed, and even then it has given great dissatisfaction. One party, who has become a debenture holder, and who had some of the first cargo, requested to have some of the second, to see if the quality were uniform; he is greatly disappointed, and I believe, if he had not paid his deposit, he would not have done so."

I assure you, I would not distribute another such cargo as the last upon any consideration."

The copy to this letter, signed by the secretary, dated the 5th October, 1839, shows the knowledge which he had of the inferiority of the coal. From what had been learned the first or upper seam. The following is an extract from it:—"In reply to your note of the 1st inst., we are sorry to hear complaint of the coal sent to Kendal, and the last cargo to Liverpool, which he easily convinced me, by part of it being the produce of the upper seam near the surface." Notwithstanding this, however, it was represented in the report prepared by Davis—adopted by the directors—dated by Mr. Alderman Thomas Wood, and read to the proprietors of the meeting, on July 10th, 1839, that the coal from the upper seam, from which the shipments were made, though inferior to the seams, was, nevertheless, universally approved of and used, &c., &c.

A cargo of coal also appears to have been sent to Birmingham, in March, 1839, and I find that, on the 10th April, Mr. H. M. Hargreaves, the agent there, writes to the directors as follows:—"There is but one opinion, I regret to say, on their quality by those who have seen all sorts having pronounced them to be of the most inferior description." Captain Wray has expressed his fear may be taken away again, if possible, with regard to the two lots I have had, with a view to let them, he says, as a sample. In the two lots I have had, with a view to let them, he says, as a sample, I have selected from among them, and produced to me my usual quality from a &c. &c. movement logic, using a box of Birmingham coal. The cargo sent is a very bad sample, and when I produced, we had an opportunity of inspecting them on the steamer when we had water, merely the bottom of the cargo were in contact, which I observed, in a form of bottom, then broken, or appeared, to be in contact of good or dirt. They are very small, and full of these dirt and heavy stones, many pieces of which I have observed, should you require them. The proprietors are I, as far as the representatives of the company, I have been informed of no recent addition, &c., &c.

I am now free once more to his letter, and two letters were subsequently addressed by the agent, to which the secretary replied on the 20th April, that his late agent's letters were read before the directors in due season, who had not given him any instructions respecting them; and I had a letter, dated the 20th June, 1839, signed

W. H. Le Poer, addressed to the secretary, reporting that the coal had proved very inferior in quality—quite inferior in that neighborhood as a household coal—and respecting to know at what depth the original deposit of them. This letter was, as regards by the minutes, read at a meeting of the directors on the 1st July, Mr. Alderman Thomas Wood, in the chair, when the secretary was ordered to write to the agents to despatch them on the best possible terms.

With respect to the conduct of the works, it appears that though Lovason and Baker were the proprietors of the Bryn, a colliery adjoining, or near to, the Pictos, sold by them to the company, or Messrs. Wood and others, that they were appointed managers of the company's property, at a salary of £200 per year. Mr. Baker was subsequently appointed sole manager of the same salary. It appears from the minutes now, that as early as January, 1839, the produce from the property then held by the company was insufficient to pay the expenses at the works, and I find in May, 1839, Mr. Edward Pagnell, who had been stated in the prospectus as the mining engineer of the company, complains, in a letter addressed to Mr. Alderman Thomas Wood, dated the 18th May, 1839, of what he states to be the mismanagement of Mr. Baker. Mr. Bagnell, in this letter, gives a list of agents under the management of Mr. Baker, and states the total annual expense of them was £1000, and that there were five pleasure horses—that, under the superintendence of Mr. Baker, expensive operations were carried on, which the writer says were perfectly unnecessary, and that many useless labourers were employed, and too much paid for labour generally, besides property being purchased which was quite uncalled for, and in some instances quite useless—that if he (Mr. Alderman Thomas Wood) would look over the pay sheet, he would find the expenses which were totally unnecessary amounted to more than £200 weekly over and above what was paid to agents." &c., and he ends by requesting that his letter "may be laid before the board, and copies of it sent to the board in Dublin, and Mr. Shaw in particular," if he (Mr. Alderman Wood) saw no objection to it. Baker appears to have resigned on the 6th February, 1839, and it appears that on the same day Robert Sears was appointed cashier and bookkeeper. I find that a fat in bankruptcy appears to have been issued against Robert Sears, of Paternoster-row, engraver, dated the 13th March, 1839, and that Mr. Alderman Thomas Wood's firm of Wood and Ellis are stated to be solicitors to that fat. On the 26th June I find the following from Sears, in a letter to Mr. Alderman Thomas Wood:—"I am quite unacquainted with the precise nature of the new steam-boat company, but cannot help thinking it would be premature to start a boat yet; there appears to me to be many preliminary steps necessary to be taken—there is no landing-place—no road—no means of getting into the sluice, on account of the narrowness of the new walls—no house of accommodation. This brings the dates and the facts up to about the period when instructions appear upon the minutes to Mr. John Davis, one of the directors, to prepare a report for the coming annual meeting. That report appears to have been prepared by Mr. Davis, read at the board of directors, signed by Mr. Alderman Thomas Wood, and read to the shareholders at the meeting on the 6th July, 1839. It opens by stating, "that the directors experience great satisfaction in making the preliminary announcement, that their confidence in the value of the property, its vast capabilities, and the profitable results which must accrue to the proprietary, as set forth in the prospectus, remain not only undiminished, but that it is greatly enhanced, from the practical experience of the last few months," and expresses "their conviction that the prospects of the company are of the most encouraging character." As to the quality of the coal, they say that they "had prudently confined their shipments and workings to those necessarily imposed on them by the dividends to the debenture holders in Dublin, and to sending a few cargoes to Liverpool and elsewhere, for the purpose of testing the excellence of the coal, and paving a way for a demand commensurate with their power of raising, not only in the domestic but in foreign markets." The report then proceeds thus:—"This object, they rejoice to affirm, has been fully attained, for although the coal in the upper seams (from which the shipments were made) is inferior to that in the lower seams, and shipped under great disadvantages, yet it has been universally approved and sought after, as well for household uses as for the various other purposes to which it has been applied."

Nothing is said in this report as to the price charged to the company; the free shares; the inability to meet the bills of the company; the obtaining of the loan from the bankers; or that the produce of the coal would not pay the expense of the works. They sum up the report by declaring that they "firmly believe that the propositions contained in the prospectus, and the verbal representations at the commencement of the company, will be fully and substantially realized under a wise, business-like, and energetic management." The statement in this report to the Pictos pit producing twelve tons per diem, appears inconsistent with the weekly report of the manager, dated the 5th of July, 1839, two days before the date of the report, which states "that the quantity of coal raised at this pit is about four tons per diem, of an inferior quality, having pyrites and other sulphurous matter." One of the directors, Mr. Richard Rawson, of Nottingham, appears to have been represented at the board by Mr. George Shoobridge, under a power of attorney, which appears to have been prepared in Mr. Wood's office. This Mr. Shoobridge appears, by the minutes, to have been sent by the directors to obtain signatures to the deed, and he has been paid commission on shares said to be sold by him. I find that a fat in bankruptcy was issued against Mr. George Shoobridge, dated the 11th Dec., 1834, and that a dividend of 2s. was paid thereunder. As to Mr. Warwick Weston, who appears to have acted from the first as director, he appears to have been a bankrupt in 1837, and Messrs. Wood and Ellis to have been the solicitors to the fat against him.

With respect to the original directors it appears that none of them took a greater number of proprietor's shares than was necessary to enable them to act as directors—viz., twenty shares. That Mr. Spencer gave a bill for the deposit on his shares, which bill is now unpaid, and letters forwarded to the address he gave were returned from the post-office. That Mr. Pottiger did not pay the first call. That Mr. Davis has not paid the second call. That Mr. Alderman Hyndman has not paid the second call. That Mr. Weston has not paid the third call.

The short result appears to me to be that the property, upon which the company was formed, was leased without any premium. That, although the property is brought by directors of the company, and is contracted to be paid for partly in shares, and consequently must be presumed to have been bought for the company, yet when the Deed of Constitution is prepared, it is charged to the company, by the parties buying, at £10,000, and yet the company's money is used to pay the original vendor. That the company was insolvent in the early part of 1839. That the prospectus and the report to the proprietors in July, 1839, were untrue and defective. That the company have now claims made against them to the extent of £200,000, and their debts and papers are withheld, unless they previously pay £200, the balance of their late solicitors' bill. That several actions have been commenced, and many others are threatened.

The preceding report, being drawn up by Mr. Ashurst, at the request of the acting directors, having been read at the meeting held on the 13th inst., the proceedings of which appear in another column, a counter-statement, prepared on behalf of Mr. Ald. Thomas Wood and the other parties implicated, was submitted to the meeting, such statement purporting to be answers to the charges contained in the foregoing report; the extreme length of these documents preclude their insertion in one number, and therefore the last report referred to must stand over until next week, when it will appear entire, it being deemed only fair that the answer should be given as fully as the charges made.

MINING CORRESPONDENCE.

ENGLISH MINES.

HOLMBUSH MINING COMPANY.

Oct. 11.—I beg leave to inform you that the lode in the 110 fathom level west is nine inches wide, and worth about 6s. per fathom for ore. In the 100 fathom level west of Wall's shaft the lode continues about one foot wide, and worth 2s. per fathom. In the veins sinking below this level no lode taken down. The eastern and western slopes in the back of this level are still very productive—the lode in the former being 1 ft. 8 in. wide, and worth 40s. per ton, and in the latter 1 ft. 6 in. wide, and worth about 32s. per fathom. In the ninety fathom level west the lode is 1 ft. 4 in. wide, and worth 27s. per fathom. The lode in the slopes, in the back of ditto, is 1 ft. 4 in. wide, and worth about 30s. per fathom. The south lode at this level is without alteration. The lode in the eighty fathom level, east of Wall's shaft, is still about one foot wide, and unproductive. The veins below this level is hidden to the ninety fathom level, in which the lode has continued to be worth about 28s. per fathom. The lode in the slopes, back of this level, is two feet wide, and worth 30s. per fathom. The rise in the back of ditto is communicated to the sixty-two fathom level rise, and expect the halving of the sixty-two rise with Hitchens's shaft will be effected by the end of the present month. The lode in the seventy fathom level rises in 1 ft. 6 in. wide, and worth 20s. per fathom. The veins on the south lode, in the bottom of the eighty fathom level, the seventy fathom level east, on the Flap-jack lode, and the sixty-two fathom level rise, against Bay's shaft, are, without important alteration. The tributary pitches are still looking favourable.

F. PHILLIPS.

GREAT WHALE CHARLOTTE MINING COMPANY.

Oct. 13.—In sending you the report of this mine, I beg to say the engine-shaft, sinking under the eighty-two fathom level, is still poor. The eighty-two, west from shaft, is producing about 2s. worth per fathom; the same level is yielding about a ton per fathom, worth 4s. per ton. The veins, sinking under this level, west from shaft, is turning out one ton per fathom, worth 4d. per ton. The slopes, in the back of this level west, are worth 28s. per fathom; and the lode in the slopes, back of this level, east from shaft, is three feet wide, and worth about 26s. per fathom; the slopes in the back of this level east from shaft's, is worth 18s. per fathom. The lode in the slopes, in the bottom of the eighty-two fathom level west from shaft, is worth about 28s. per fathom. The lode in the level, driving east on the north side, is not so good, therefore we have put the men to sink a vein under this level, where the lode is eighteen inches wide, worth 6s. per fathom. We have sampled this day 120 tons, and should have sampled several tons more but for an explosion which took place last Sunday week, which prevented the men from working for five days.

S. TREYTHAWAN.

TRIGULLIAN MINING COMPANY.

Oct. 11.—I beg to inform you that the forty fathom level is now extended twenty-three fathoms east of Baker's shaft; the lode in the present end is still large, and of a very interesting description, though not so good as stated in my last. We expect in the course of another month to fairly reach the productive ground soon in the thirty fathom level. I expect to state that we expect progress in sinking the veins from the thirty to the forty fathom level on account of having water, but as soon as the forty fathom level is advanced sufficiently for us to rise to it we shall do so; the most productive part of the lode in this vein has not been taken down during the past week. The thirty fathom level is extended twenty-three fathoms east of said shaft—the last twenty fathoms driving being productive, but at this present time the

water is poor. In driving east on the new north ledges, at the adit level, we find it is improving, producing good stones of ore. The ledge at the same level, east of Baker's shaft, no alteration since my last. We have experienced great inconvenience of late in working one or two of our tribute pitches at the ten fathom level, from the surface water finding its way thither, consequently we fear we shall not be able to work these pitches to our advantage until the dry season approaches again; with this exception our pitches are looking much as usual.

J. NINNIS.

TRELIUGH CONSOLIDATED MINING COMPANY.

Oct. 9.—The Seventy East.—The lode is two and a half feet wide, rather disordered by a cross branch of spar. This level west is large and kindly, with stones of ore. The sixty is but little altered from last week's report; the lode is not so large, but good in quality, worth 16s. per fathom. In sinking a vein under the sixty fathom level, the lode is three feet wide, worth 5s. per fathom. The fifty west has not been taken down during the past week, but we have every reason to expect it maintains its full size and quality, worth 26s. per fm. The pitch in the back of the fifty east continues to improve. At Good Fortune, the 44 east continues good for ore, the lode is eighteen inches wide, worth 6s. per fathom; this level west is a little improved, having a ledge of ore worth about 3s. per fathom. The whole of the tribute department is looking well.

W. SINCOCK.

WEST WHEAL JEWEL MINING ASSOCIATION.

Oct. 11.—The seventy cross-cut is rather harder. The fifty-seven east, on the south branch, is worth 6s. per fathom. The fifty-seven east and west, on Wheal Jewel lode, has not been taken down during the past week; the slopes in the back of this level are worth 12s. per fathom. We are obliged to suspend the veins sinking under the forty-two, on this lode, on account of the water. The thirty west, on Tolcarne lode, is worth 30s. per fathom. No material alteration in any other place.

S. LEAN.

TRETOIL MINING COMPANY.

Oct. 11.—The forty and fifty fathom levels are much as last reported; we have been changing some pitwork in the past week, which has prevented our doing much in these levels. The lode in the rise, in the back of the thirty fathom level, east of Williams's shaft, is three feet wide, and very good tribute ground. Jones's lode, at the twenty fathom level, west of Williams's shaft, is six inches wide, and good tribute ground. Tregella's lode, at the same level, is fifteen inches wide, and tribute ground. We are driving east on the Mine Park lode, at the adit level; the lode is about fifteen inches wide, producing some ore, and kindly. We have at present thirty six pitches working at different tributes, from

RAILWAY AND COMMERCIAL GAZETTE.

sible, works of research be undertaken, in order to open new points of produce on certain portions of the vein still unexplored. The quantity of picked ore produced in the two weeks ending the 14th inst., or since the date alluded to in my last letter, has been 1000, or 800 cargas weekly, and the sales of ore on joint-account with buscones, have yielded the gross amount of \$6636 2, or \$3325 1 weekly—the two together giving, as a general result of operations during the said period, a loss of about \$700 per week, after providing for the expenses at the mine, and for the reduction of the ore.

Royas New Contract.—With reference to this subject nothing further has transpired since the date of my last letter to the court, of the 12th inst.

Quicksilver.—The invoice of the sixty flasks of quicksilver, received per *Pensum*, is to hand, and the manager has been debited with its amount in \$200 13s. The further shipment by the court, of sixty flasks by the *Aler*, the packet last arrived, is duly noted. J. N. SNOOKERSON, Manager.

Report on the state of the Workings of the Mine of Royas.

August 15.—La Purisima.—The general aspect of the end of Santa Victoria underwent an improvement immediately after the date of the last report, and the good appearances extended to the roof also; but these were of short duration, and the working has again returned to its impoverished state. In the pit of San Hermos the lode continued in its broken and unpromising condition so long as the workmen were employed; but the prospects here of improvement being very remote, the advanced part of the pit was suspended, and the men employed upon a very narrow band of ore which had been left against the upper part of the lode. This band, however, broke up after two or three days, and the working is now abandoned. Some ores are now being scraped together from the upper parts of the old workings of Santa Victoria. No alteration has been observed in the end of Santa Margarita. Nine pair of barmen are employed by day, and the weekly extraction of ores in the rough state has averaged 119 cargas, which, when picked, have yielded 55 cargas, calculated to be worth \$8311, exclusive of reduction expenses.

San Cayetano.—In the plato of this name, the ores, which are rather scarce, are now principally found in a pit opened some time since. The narrow threads of ore are being followed up in San Ambrosio, and occasionally a small bunch presents itself. A slight decrease has taken place in the produce of the roof of Pueblito, the centre of the working in the most productive point, and the quality of the ores keeps up. The extraction from the roof of Santa Cecilia is important at present, insomuch as some bunches of rich quality are thrown down from the north-west side; from the centre to the south east side the ores are of rather an ordinary character. In the end of Santa Victoria the lode is looking rather sterile, and, at the same time, it has become very compact; there were some indications of the roof becoming productive, but these have disappeared within the last few days. A slight increase of ore has been observed in the pit of San Antonio, or second pit, and there being something promising on the north-west side, an end has been commenced. The pit and end of San Feliciano do not contain so much ore as formerly; the narrow threads, which run across the workings, have broken up into small pieces. Thirty-four pair of barmen have been employed by day, and an equal number by night.

Los Reyes and San Pablo.—The produce of the pit of Santa Rita, in Los Reyes, is gradually decreasing, and the ores are of an ordinary quality; on the north-west side another communication has been made with old workings. The roof of San Pablo has hitherto proved rather scarce of ore, and although the higher part of the lode is now being reached, no improvement is observed in the general appearance of the working. Six pair of barmen have been employed by day, and an equal number by night. The weekly produce of ore, in the rough state, from San Cayetano, Los Reyes, and San Pablo, has averaged 1395 cargas, which, when picked, have yielded 431 cargas, calculated to be worth \$1408, exclusive of reduction expenses.

San Miguel.—In the advanced part of the cross-cut of Espiritu Santo, an end to the north-west has been commenced, embracing several of the narrow bands mentioned in the last report. Nothing particular has been met with; a small quantity of water flows from the south-east side. The band of ore in the pit was followed up so long as it was productive, but after some days of borsacea it was abandoned. In a south east direction this same body of ore is being pursued in an end, and occasionally some very narrow threads are found on the edges of it. The end of San Luis to the north-west, after advancing a few varas, communicated with an old working filled with rubble. That in the opposite direction has latterly produced rather more ore, the quality of a small portion of which is good. The point above San Luis has turned out unproductive hitherto; a small quantity of ore is collected from the other old workings. Thirteen pair of barmen have been employed by day, and twelve pair by night, and the produce of picked ore has averaged sixty-eight cargas per week, calculated to be worth \$340, exclusive of reduction expenses. There have been four sales of ores extracted on joint account with the buscones, amounting in all to \$15,227 7, of which one-half, \$7613 7 4, belongs to the miners.

Ores sent to the haciendas—Barrena 1169
San Matins 960—2129 cargas
Ores on hand at the mine—picked 594
unpicked 678—1269 " G. R. GLENNIE.

BOLANOS MINING COMPANY.

Guanajuato, July 15.—I beg to enclose herewith the San Clemente accounts for June; they show a profit on the mine of San Nicolas of \$7411—on Ma-
lanoa a profit of \$22, and on Maguila, at Begona, of \$600; on the other hand, they show a loss sustained on San Clemente of \$8377, and on Ma-
guita, at La Granja, of \$410—on the whole, a loss of \$7476. This agrees ill with the statement annexed to my last letter, which shows a profit of \$14,270 on the whole negotiation, although the losses on the small mines are comprised in the same; but I beg to observe—First, that in the present account is comprised not only \$7665 general expenses for April and May, which, of course, do not regard the working of the mines in June, but also \$7250 law-suit expenses of San Clemente, which item I did not put down in the statement referred to, as it became due, and was paid on the 30th ult.; whereas, in the latter, the result of the working of the mines during the four weeks ending the 26th ult., alone is contemplated; and, secondly, that of the number of montones, the produce of which is put down in my statement as returns; thirty-five were not ready for working at the very close of the month, but a few days later the benefit of the same having lasted a little longer than was anticipated. This casualty, however, is the cause of the loss sustained, apparently on Maguila, at La Granja, and of the amount of returns being smaller by 487 mcs. 3 on, than what I had expected. The two before-mentioned items, which do not regard the working of the mines in June, amount to \$12,905, of the loss of \$746, which appears in the accounts, be deducted, there remains \$12,158 real profit for the four weeks ending the 26th June, a result which will be very different from that which I put down in my statement of the value of those 487 mcs., less the costs of Poco Rico, not comprised in the accounts, be added. The state of the mines of this district continues tolerably prosperous, as you will perceive by the enclosed report of Mr. Roman for June; and in the present month there will be a considerable profit left, as you will see by the annexed statement. If the mines continue in that manner some months longer, I hope to get rid of our liabilities here. I wish I was able to give you equally pleasant intelligence about Bolanos, of which concern I beg to forward herewith the accounts for May and June, together with treasurer's account for May, and Mr. Hale's reports for last month, to the latter of which I annex a copy of a letter of this gentleman, dated 2d inst. The result shown by the May accounts, is nearly the same with the one stated in my last letter, and I refer to the observations I took then an opportunity to make about it. The result of June is far more disadvantageous, not from the costs of Bolanos, which are very moderate, but owing to the small amount of returns, and the loss on the Maguila at the smelting establishment, both occasioned by the circumstances already mentioned in my last, which could neither be foreseen or prevented. As regards Mr. Hale's letter of the 2d inst., I observe that, in my reply, I stated that the sinking of San José shaft could not now be resumed, nor indeed at all, whilst no certain resolution with regard to the mine had been taken by the court; that if the works Mr. Hale proposes to stop can really be dispensed with, they ought to be stopped, and which has since been in part done, owing to their non-productiveness.

July 16.—Yesterday I was underground, and it is a great satisfaction to me to tell you that the state, both of San Nicolas and San Clemente, is hopeful. Most of the workings look promising, and we may anticipate already also a profit for August, or, for some time to come, the extraction will be about the same as in June. The end driving north, on the transverse vein, in the level of Dios nos Goce, is San Clemente, is very promising. In the level of San Fernando, about fifty-two varas west of the principal shaft of that mine, a few days ago a cross-cut was commenced for the amount of San Nicolas, by which we intend to cut at a greater depth the course of rock over the boundary of both mines, on which, in the level of San Francisco, our best workings are situated. As soon as our circumstances permit, I intend to resume the sinking of the shaft, which it is indispensable to sink about forty yards if the working of the mine of San Clemente is to be continued. The ley of the ore goes on improving, and the average produce of all the ores which are to be beneficiated in the present month is expected to be near 150 mcs. per month.

Report to— Since I had the honor of addressing you on the 10th and 10th ult., I have not received any dispatches from your office, as the correspondence of the May packets has not yet arrived at Zamora; it being probable that she is at Vera Cruz already, and that this letter would not reach her, I send the present to Tampico, with orders to forward it to Zamora and United States. The silver produced last month did not amount quite to the quantity expressed in the statement annexed to my last letter. Up to the 26th ult. the silver introduced into the mint amounted to 6000 mcs., and in the week ending 26th ult. were introduced 1200 mcs., less a few ounces

in casting into bars—thus the whole is about 6000 mcs., or not quite 400 mcs. less than I stated. The ton-on is, that two toras, one of ore from Poco Rico, and the other composed of 315 montones of San Clemente ore, the produce of which I had included in my statement, were not ready for washing on the 21st ult. Had the benefits lasted a shorter time, and could the silver to be obtained from them have been introduced into the mint, the whole production of the month would have been upwards of \$7000 mcs., or considerably more than I had anticipated, owing to nearly all the ores having yielded more than was presumed. The ley of the ore is improving greatly. The last tora of San Nicolas, incorporated on the 24th ult., assayed 295 mcs., and the last tora of San Clemente nearly 16 mcs., and a tora of seventy montones of ore of San Nicolas is about to be incorporated, which is expected to assay as much as the former. The silver corresponding to the raias of last month (I do not say the ley, but what the ore is expected to yield) is upwards of 6500 mcs., and I hope this will be the produce for the present month; if the extraction in this and the next week continues the same as it was, and the workings look very promising, a similar produce is also to be had for September, and, in that case, we shall be able to cover the claims on the company, due at the end of next month.

August 11.—In my former letter, dated 1st inst., I stated that I was in anxious expectation of the arrival of the May packet; I have since then received your letters, dated 3d May, by which I learned the steps that had been taken by one of the shareholders to cause a delay in the carrying into effect the resolutions passed at the last meeting of the proprietors; but I am happy to be able to assure you that, by such proceedings, the credit of the company will not be impaired, at least in this country, while our mines here continue so prosperous as they have of late. Herewith I beg to enclose the accounts of the San Clemente negotiation for July, by which you will learn that a considerable profit was obtained in last month. By the annexed statement you will likewise see that, in the present month, a far more considerable profit will be left, and we may already anticipate a profit for September also; those documents, together with the miners' report for July, of which I beg to submit a translation, show sufficiently the actual state of the negotiation, and thus I may be dispensed with adding some further observations for the present. With regard to Poco Rico, the annexed statement shows likewise that, since the resuming of the working in April last, the mine has not been worked at an annual loss, and thus we may go on still with the hope of making a discovery of some importance, although it is no longer necessary to continue the working, with the view only to protect the mine against denunciations. Considering the present state of the concerns, I can but repeat, that I hope the company will be able to cover the claims due at the end of next month out of the produce of the mines. From Bolanos I have not yet received the accounts for July, nor Mr. Hale's report for the same month; according to the weekly reports I receive from that place, I expect, however, that the loss sustained in July will not exceed \$4000, and considering that a part of the costs is only nominal, and that another part consists in expenses for protecting mines, which I am not authorized to return to their owners and inspectors salaries, it is obvious that the loss of Bolanos cannot have been great by any means.

August 17.—I have not yet received the usual monthly mine report from Bolanos. The July accounts were not ready, but Mr. Garret has given the following figures as the result, viz.:—

Loss on Bolanos	\$1429	2	7
Ditto Intermedio	38	2	5
Ditto Coacahuila	161	6	0
Ditto Tepeo	139	4	0
Ditto Concepcion	207	4	0
Ditto Sargi	143	1	0
Ditto smelting establishment	1664	0	4
Salaries and general expenses	4700	6	3

To be divided over the negotiation—deducting \$2633 gain on the hacienda Chica, remains a loss of \$6034, or about \$7000 more than I had mentioned in my last, owing, as it appears, to an item due to the house of Luis and Co., at Guadalajara, for agency. The cast on hand at Bolanos, on the 31st ult., was \$22,000. In my statement of the probable produce of silver here for the present month, which I transmitted with my last letter, I have to add, that the tora of twenty-four montones of ore of San Clemente, which is to be washed in the fourth week of the month at Begona, has assayed 35 mcs. 3 oz., and that, besides the toras enumerated in the just referred to statement, another tora, of twenty-five montones of ore, of the same mine, assaying 25 mcs. 1 oz., has been incorporated in the course of last week at La Grana, which probably will also be washed in the present month, in which case the whole quantity of silver produced will amount to nearly 10,000 mcs. On the 24th inst. we shall have already about \$50,000 at our disposition for paying off a part of our debts, for which reason I have ordered the sum due on the 13th proximo for quicksilver, purchased of Mr. Morrison, to be paid. Owing to the high ley of the ore, a large quantity of quicksilver is continually employed in the beneficio; for instance, one tora (sixty montones) of San Nicolas ore has already received 6700 lbs., and will require 1000 lbs. more, besides 2000 lbs. necessary in the operation of washing, and so the other toras in proportion; thus our stock of that substance is rather inadequate to the present production, I have, therefore, purchased 200 flasks more, at \$130 per quintal, payable in two months from delivery. The extraction of last week was 330 cargas at San Clemente, and 215 cargas at San Nicolas, or, adding the usual surplus respectively, about 370 cargas and 240 cargas; according to the data contained in the statement annexed to my former letter, the value of these raisings is very considerable, and will leave a profit of \$7000 at least on the expense of the mine. At Poco Rico, in the level corresponding to the depth between the 60 and 100 varas cross-cut, a chasm is driving east on the vein, three varas wide, containing a great many strings of ore—the stones broken from which assayed 6 mcs. 3 oz. per montone. As the vein is so very wide, it will be profitable to commence a working on this point; should the ley improve—that is to say, should the strings unite, so that their tepeote is mixed with the ore, the mine may soon become a valuable one. When speaking of Bolanos, I mentioned only the cast on hand, and forgot to state that the silver on hand was, on the 31st ult., 3200 mcs., and forgot to state that the silver on hand was, on the 31st ult., 3200 mcs., east into bars—thus, towards the end of the month, there will be, I hope, upwards of 5000 mcs. ready for sending to Guadalajara, and in that way the Bolanos negotiation may go on, even with some loss for some time, without requiring aid from here. I remark, however, that the information I received from there on the state of the mine, incomplete as the notices are, does not contain any agreeable news, and I fear that, with regard to that negotiation, nothing will be left to be done but returning it to the owners.

Mine Report for June.

*July 3.—*I send you the usual monthly reports for June. By the new report you will observe that the total quantity for the month, including particle purchased, amounted to 2762 cargas; of the 400 cargas put down as obtained from "the clearing and sweeping one yard," 300, about 100 was extracted from the re-clearing of Deserto, and contained about 9 on. per carga; 200 were Tierra de Quiebres, and the remainder sent up from under-ground on hacienda account. Attached to the ore report you will find a summary of the particle purchased in the month, by which it appears a small profit will be made. I propose to insert monthly this statement, provided you approve of it. I am sorry to inform you that the ley of the ore from Gotoras workings have fallen off considerably within the last few weeks, and the assays for last week barely averaged 1 on. per carga; the ore from Aragonés level contains nearly 6 on. per carga, and San Felipe veins and San Tomás level may be called poor, although they are in a large and promising vein, containing good piatas. The laboreo of San Rodrigo, in the vicinity of San Martin level, continues to yield ore of a tolerably good ley, averaging from 12 mcs. to 14 on. per carga, but as they contain a rather large proportion of negro, the barrotes show a diminution to work on this kind, preferring always such piatas as produce only negro, for which they obtain a redder and better ore; the barrotes, however, have invariably purchased all the particle that the barrotes have been otherwise unable to dispose of, so that this obligation would appear to be removed. Since the communication has been made in La Cruz level, between the veins of San Miguel and San Antonio, and between the latter and Santa Barbara, all the barrotes are anxious to procure labores in this neighbourhood, because the ores are, for the greater part, negro, and contain a tolerable good ley; the ore part of the vein in the piatas averages from a half to three-fourths of a varas wide, the best part being in the bottom and immediate vicinity of Santa Barbara vein, and as the ore hardly discovered in San Lorenzo level tends to indicate a continuation of the vein to that depth, we may expect a steady produce for several months [to come] from the ground above the latter. In San Lorenzo we have now passed through about two varas of ore ground, and although it cannot be termed a rich course of ore, yet it will afford a profitable working, and the vein altogether is of a very promising description. This circumstance has naturally called our attention to the importance of the resuming the sinking of San José shaft, which is already sixteen varas below San Lorenzo, and is short only eight varas of the depth proposed for the new level; to complete this, and drive the cross-cut, which will be about thirty-five varas in length, we calculate would take about eight months, and, in view of this, the ore ground above San Lorenzo will be nearly finished; the importance of this work is very great, and in order not to increase the cost of this work, I should venture to suggest the suspending, in the meantime, of the following works:—Santa Tomás level, mouth of San Felipe veins; San Felipe veins, below Santa Tomás level; Aragonés level, mouth of Gotoras veins; and if these reductions should not be found equal to the increased expense of the shaft, I would even suspend all the other labores that are not producing ore—such as Tierra's and San Martin's levels, driving south, which I consider, at the present moment, of minor importance, when compared with the sinking of San José. When the shaft was suspended we had not then cut the vein in San Lorenzo, but now that we have run back a

promising vein in this place, the motive for resuming the sinking, in my opinion, is sufficient to warrant the resumption of this work. The quantity of ore raised this week will be about 600 cargas, not including particle purchased, but a great inconvenience has been felt, owing to the want of carts, which I hope you will soon be able to send us, as the number is getting daily less. I have looked over the accounts of last month, and, as far as the Borriales mines are concerned, there is no item of expenditure that requires particular notice; indeed, the raja, during that period, has been very moderate, but the expenditure of hacienda Chica is unusually high, occasioned principally by the great consumption of materials used in the beneficio of torcas of the Relaves de Concentración.

Summary of Costs and Returns for June, 1841.

Costs	\$23,004	3	1
Returns	22,430	1	5
Loss	-\$1,454	1	4

July 8.—San Clemente.—The transversal vein, on which we had a bodega, has proved very inconstant during the month, it sometimes producing bronzes, of a middling quality, with some plate aral, and in some times becoming entirely unproductive; towards the end of the month we met with a crevice, underlying south, which crossed the vein without occasioning a break, but rendering it unproductive, and the veinstone, as well as the greenstone of the walls, pretty soft. We commenced a rising and a sinking wing on this transverse vein, but had to abandon them a few days after, owing to the angles of good quality not continuing either in the downward or the upward direction. The hope I expressed in my last report, that the extraction of ore would increase this month, has been fulfilled, but not in the degree that I expected. To this increase contributed chiefly the wings No. 2, in San Francisco, from which 403 cargas of good negroes were raised—upwards of 4,130 lbs. of the whole extraction; add to this the good ley of these ores, and it will become obvious that, of all being worked on cargo, the just-mentioned working is at present the most important one of the whole mine; thus, it is much to be regretted, that before long it will be communicated to the owner of the mine that the extraction of ore would increase this month, has been fulfilled, but not in the degree that I expected. 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ROYAL POLYTECHNIC INSTITUTION.—NEW and IM-PORTANT LECTURES will be delivered next Thursday, the 21st inst., and on the Saturday, Tuesday, and Thursday following, at Two o'clock precisely, by Professor CLARK, of the University of Aberdeen, on his *PROCESS FOR PURIFYING THE WATER SUPPLIED TO THE METROPOLIS*, by separating from them the vegetating and colouring matter, destroying the insects, and withdrawing from solution large quantities of solid matter, not separable by mere filtration; to be illustrated by experiments. Various other popular Lectures and Exhibitions, and nearly 200 works, which display eminent art, science, and ingenuity. Open, mornings and evenings, except Saturday evenings.

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A N EXPERIMENTAL INQUIRY concerning the RELATIVE POWER of, and USEFUL EFFECT produced by, the CORNISH and BOULTON AND WATT PUMPING ENGINES, and CYLINDRICAL and WAGON-HEAD BOILERS, in quarto, extra cloth boards, price 1s. By THOMAS WICKSTEED, M. Inst. C. E. J. John Weale, M. High Holborn.

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"I am very glad to hear that my recommendations have been of any service to you. They have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camberwell, Cornwall.

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Clerk to the Company.
Walbrook Buildings.

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PUBLIC COMPANIES.

	SUMMERS.	FALLS.
Bolivar Mining Association	Office	Oct. 24 ... 11.12
Tamar River Lead Mining Company	14. Finsbury-square	28 ... 2.
British Iron Company	London Tavern	Nov. 29 ... 1.
Edinburgh & Glasgow Railway	51 ... Oct. 19 ... Glyn and Co.	
Kent Coal Mining Company	52 ... Nov. 29 ... Barclay and Co.	
St. John de Dieu Mining Co.	24 ... Dec. 22 ... Barclay and Co.	
Cambrian Iron & Spelter Co.	24 ... Dec. 22 ... London Joint-Stock Bank	
DIVIDENDS.		
The Miners' Company	2s per cent. Office	Oct. 21.
Coburg or Mining Company	1s per share. Office	28.
United Hills Mining Company	1s per share. Office	28.

NOTICES TO CORRESPONDENTS.

THEORY OF THE STEAM ENGINE.—We have received a very long communication from the Count de Pambour, in reply to the letter of Mr. Parkes, inserted in a former Number, but, owing to the late hour at which it reached us, we have not been able yet even to read it, much less form an opinion as to its being a subject fitting for our columns.

MINE SURVEYING.—We have several communications in type on this subject, but which, together with much other valuable and interesting matter, must stand over until our next.

PARSON AND WYKE RAILWAY COMPANY.—We are compelled to defer the insertion of our report of the meeting of this company held on Tues. last.

A report, also ours, will, doubtless, be received per *Neptune*, on subject of the interview, which, we regret, was of too limited a nature to be satisfactory to either party. We will endeavour to draw up some memoranda, which shall be transmitted, or will be happy to enter into further particulars on our proposed visit to the Elbe and other districts, to which our attention is likely to be shortly directed.

THE MINING JOURNAL, Railway and Commercial Gazette.

LONDON, OCTOBER 16, 1841.

The remarks that have lately appeared in our columns on the spelter trade—assuming, as it does, an importance which, some few years since, was never calculated upon—and the interest which the subject has generally excited, as well as the value we attach to statistics connected with this or any other branch affecting our mineral products or those of other countries, induce us to adopt the substance of some very pertinent observations made by Messrs. SHORT and MAHONY (a firm of high standing as metal brokers), accompanying the tabular statements which appear in our last page, and to which we invite the particular attention of those interested in the manufacture or application of zinc.

The several articles in the MINING JOURNAL, treating on this subject, have naturally attracted the attention of the English miner and capitalist, and we have reason to believe that, ere long, we shall be in a position not only to advance the interests of the home miner, but to protect the manufacturer from excessive prices, for such, without reference to the comparative value of this metal with others, must be considered to be the case, when we find it, in less than three years, to have doubled its price, or nearly so—it then being quoted at 18*s.* per ton, while the present price is 33*s.* to 35*s.* 10*p.* per ton in bond.

We will at once proceed to those remarks which apply to the tables already referred to, which will, in addition to the statistics already furnished, doubtless satisfy Mr. ANICHINI, and other sceptics, that "facts and figures" are the data on which, after all, our conclusions must be based. The home consumption of England has gradually increased, being, in 1828, only 520 tons, and in the two past years, it has exceeded 4000 tons per annum, which is evidenced by the tabular matter to which we have already made reference. It may be well here to show the quantity forwarded from Breslau for the past three years, making them up to the 31st August—we thus find, in 1830, the quantity was 13,000 tons; in 1840, 9,750 tons; and in 1841, 6,365 tons; so that, whilst the annual consumption of England (as well as that of France, which consumes from 8000 to 9000 tons) has increased, the production of the article has been diminished, which is manifest from the fact, that, in 1830, when the price was about 19*s.*, the quantity forwarded from Breslau was 13,000 tons; in 1840, when the price was about 22*s.*, it was 9,000 tons; and this year, the price being 33*s.*, the quantity is reduced to 6,400 tons.

It must be self-evident, that so great a falling off in the supply is only to be ascribed to a diminished production of the mineral, or an increase of consumption in Germany, for it cannot be supposed that large stocks are held in Silesia when the price here has been so considerably enhanced. It further appears that the consumption of England to the end of last month is very little less than that in 1840; and although the stock at the present moment is 800 tons more than on the 31st of December, the stock in France does not now exceed 200 tons, being only one-fourth the quantity held in January last. As the exports from Great Britain to India have a considerable influence in the consideration of the question, it may be remarked, that, for the past eighteen years, ending Dec., 1840, they give an average of 33,000 tons per annum, while the stocks in India on the 1st of January last, it is confidently stated, were not a fourth of the quantity sent direct from Hamburg and Danzig in 1828 and 1829; from which it appears perfectly clear, that all spelter shipped from this country has been absorbed, and, moreover, that the consumption of India is at least 33,000 tons per annum. For the last five years spelter has been sent thither from this country on an average of 16,75 tons per annum, or one-half the consumption, while, throughout the first eight months of this year, only 400 tons have been shipped. This falling off has, doubtless, been caused by the sudden rise of prices in Europe, having deterred shippers and stopped the supply—the consequences

are now, it would appear, beginning to be felt, more especially, at Calcutta, from whence every succeeding overland mail brings higher prices; and it may be fairly calculated upon, that when the advance here, and the great falling off of shipments becomes known in that market, a rapid rise will be the consequent result—the stock not exceeding 200 tons in importers' hands.

The quantity imported into England in the present year is nearly 4000 tons, which may be said to form four-fifths of the entire supplies, which can be calculated upon before the close of the navigation for the winter. The stock may be taken at 2300 tons, and it is not probable that more than 1000 additional tons will be imported this autumn. France has imported but a comparatively small quantity this year, although the demand is rapidly increasing—India has only one-seventh of her required supply—and here the consumers are nearly all out of stock; under these circumstances, it is clear that, for the anticipated wants of England, France, and India, until April next, when the spring supplies begin, we are to depend on a supply, including the present stock and expected imports, of less than 4000 tons. From the tabular statements already referred to, and the preceding remarks, it must, then, be manifest that it is the consumption which has caused the rise in the price of spelter, and that, however speculations may have been indulged in, it is not attributable to that source.

By the latest accounts received from Calcutta (18th of August),

we find that spelter, which was 11*s.* 4*p.* per md. in the early part of July, had risen, in consequence of the demand from the interior, to 14*s.* 12*p.* 12*d.* on the 17th August, and buyers were then to be found at 15*s.* per md.—45*s.* per ton gross; this rise took place when the latest advices from England quoted only 27*s.* to 28*s.* per ton, since which a rise of 6*s.* per ton has taken place.

It is unnecessary to say more—"facts and figures" are before our readers—and the conclusion at which they must necessarily arrive, is that of a prospective advance in the price of spelter, until the supplies from abroad shall be increased, or means rendered available at home, whereby we may, as in the case of sulphur, be independent of foreign produce. We are well pleased to have the opportunity of submitting the tables and observations, already acknowledged, in corroboration of the views taken by us some few weeks since, when treating on the subject; and we hope, on an early occasion, to be able to collect the various data to furnish an interesting paper on the produce and application of this valuable metal, which is daily attracting increased attention.

The proceedings at the meeting of the Talacre Coal and Iron Company, on the 13th inst., have fully borne out the correctness of the remarks we have made from time to time on the shameless abuses practised on the victimised shareholders; and the report presented has, in strong colours, but with a dark shade, truly painted

Mr. Alderman THOMAS WOOD, Mr. WARWICK WESTON, Mr. DAVIS, Mr. BAKER, Mr. BAGNALL (the celebrated engineer), the worthy Aldermen of Dublin (Messrs. HODGES and HYNDMAN), Mr. FOTTRILL, Mr. R. RAWSON (of Nottingham), Mr. SHOONBRIDGE (the last of whom, under the garb of saintly hypocrisy, induced parties to embark their capital) and the other worthies, whose names, to record, is but to disgrace our columns.

It would not be fair, in the absence of the counter-statement of the concoctors, to enter upon the report of Mr. ASHURST, which we regret is not more pithy, for the facts were so glaring, that it required not so diffuse a statement to expose the abuses which have been practised. All that Mr. Alderman Wood (not Sir MATTHEW WOOD) has put forward at the public meetings about his honesty and his principles (despite our continued charges, and to which the shareholders are indebted for the *exposé*, which should have taken place some eighteen months since), proves to be false; he has throughout been playing a double game, and we cannot expect otherwise than that he will avail himself of the earliest opportunity of "doffing" the aldermanic gown. It is really painful to read a report such as that which appears in our columns, and at the same time reflect that one of the chief actors is a magistrate of the City of London, and who, by rotation, would next year fill the civic chair. Having now the report of the directors—for such must be considered Mr. ASHURST's statement—the counter-report of Mr. Alderman Thomas Wood and his coadjutors, and, further, that of the committee, we will endeavour, on the publication of the entire documents, to frame an abstract of the "moves" of the party, which shall serve as a beacon for future times, and, if we mistake not, bring down upon the unprincipled projectors at least the odium of the public, if not the award of justice.

We recommend to our readers, whether interested or otherwise in the Talacre Company, to read the report of the proceedings and the statement of Mr. ASHURST; and we further recommend them to peruse the Journal of the 25th Sept. last, wherein will be found a digest of the articles which have appeared on this subject from April, 1839, up to that time. Let them compare our charges with the representations of the directors, and it will be found that not only were we right in the course we pursued, but that thousands would have been saved had our advice been taken—and they will, we feel assured, agree with us—that the principals in the business are even worse than JOSEPH PIKE, WM. MILLETT THOMAS, or any other wholesale destroyer of public confidence.

The first quarterly sale of tin by the Miners' Company took place on the 14th inst., on which some remarks will be found in our last page. If we cannot congratulate the mercantile body and the consumers on the results, it is highly satisfactory to us to find that, so far as the miner and the interests of the company are concerned, the issue has been one of a successful character. The opinion was boldly advanced, that the consequence of this large sale, involving an amount of 70,000*l.* to 80,000*l.*, would be a heavy fall in the price of tin, whereas the result is—the holders being stiff, and even higher prices demanded.

With the view of explaining the remarks which are appended to our prices of metals, which emanate from a gentleman thoroughly conversant with the metal market, it may be right to observe, that the Miners' Company have effected their object in one sense—that of protecting the miner from the clutches of the smelting-merchant, who is now compelled to purchase his merchantable tin from the Miners' Company, and thus the miner is protected. That the consumer was disappointed, we do not entertain a doubt—we have ever supported the Miners' Company as the friend of the miner, while the quarterly sales, which will be strictly adhered to, afford a wholesome check on the trade.

We are given to understand that four-fifths of the tin, or 800 tons, have been taken by the large houses (for the public sale was insignificant in the extreme), and thus prices are maintained instead of being lowered; the remaining 200 tons, we presume, will be sold by the company at the current price of the day, after which no further sale will be effected by them until the next quarter. In the meantime the stock of tin is transferred from the Miners' Company to the merchants, who will, doubtless, uphold the price. There is a spirit of monopoly, we must admit, in the system not calculated to advance the interests of the consumer, but we think him better off than under the avaricious regime—while we are quite satisfied the miner meets with fair dealing and protection which he could not before reckon upon.

The movement on the part of the Miners' Company was bold. We are glad to find it attended with success, and trust that the mine adventurer will consult his own interest, in lending his best aid in promoting the object which the company have in view—that of protection to the miner and mine adventurer, "one and all."

ORIGINAL CORRESPONDENCE.

ON THE PROPERTIES OF ANTHRACITE.

SIR.—One of the most extensive and valuable mineral districts in the United Kingdom has been opened out by the formation of canals and railroads in the country to the north and east of this place—I allude to the Gwendraeth Valley, to Cwm Ammen, to the great mountain, and the contiguous localities, in which anthracite is the prevailing fuel, lying in great abundance, and much of it first-rate quality. All parties conversant with the subject agree cordially upon the main point, that anthracite is very valuable as fuel for smelting iron ores, however they may differ in minor details. As the subject cannot suffer by discussion, I trust I shall be pardoned for hazarding opinions, because, if erroneous, they are likely to be exposed without doing any injury when the public have such able guardians as the gentlemen of first-rate talent and tried experience, who are accustomed to offer remarks through the columns of the *Mining Journal*, and who, I am persuaded, would not allow a mis-statement to go uncontradicted. The commencement of manufactures in what may be termed a maiden field offers an opportunity for establishing any improved method of working, which it is a pity to neglect. I repeat my firm conviction—a conviction strengthened by Mr. Brough's letter of the 20th ult.—and there is nothing in Mr. Williams's letter of the 4th inst. likely at all to shake it—that the great advantage which should result from the use of anthracite as fuel for smelting iron, are for the most part thrown away by the expensive means resorted to make use of it. So far as chemical science extends in the present day, I agree most fully with Mr. Williams's reasoning; but I beg leave most respectfully to state, that I think Mr. Williams has overlooked some important points in the mechanical structure of the two descriptions of fuel—coke and anthracite. If a piece of coke comes through a blast-furnace of any size, which is of rare occurrence, it is a light porous body, perforated, so that is quite evident to a careful observer that the blast has forced a free passage through it; but pieces of anthracite of 2 lbs. or 3 lbs. in weight will come from the furnace, merely charred over the surface—furnaced, if I may use the term—evidently by the action of the blast forcing passages between two pieces of coal, or between a piece of coal and the other materials lying in contact with it. Such pieces of coal, upon being broken, exhibit their interiors as fresh as when taken from the mine, altogether unchanged—such is not the case with coke. As Mr. Williams must be regarded as a high authority in all matters connected with combustion, I take the liberty of hazarding an opinion on the subject—viz., that nitrogen has some more important part to perform in the operation of combustion than has been hitherto assigned to it, in the present theory of combustion. Mr. Williams must not misunderstand me; I do not pretend to broach any new theory, but merely give a crude idea upon a subject which I freely confess I do not understand. The interchange of ideas may produce some good.

Yours, &c.,

T. H. LEIGHTON.

THEORY OF THE STEAM ENGINE—MR. PARKES AND M. DE PAMBOUR.

SIR.—In your Number of the 18th ult. you have printed a letter of Mr. Parkes relating to me; in answer to which I shall only beg you to insert not a fresh reply, but merely the paper itself, to which Mr. Parkes's letter was intended to be a reply. Your well-known impartiality induces me to expect that this request will be granted without difficulty. The paper in question, copied without any alteration whatever, is inclosed in the present letter, under the head "On the Momentum proposed by Mr. Josias Parkes, as a Measure of the Mechanical Effect of Locomotive-Engines."

In that paper the following words occur—"The author tells us that he is more accustomed to handle the hammer than the pen." But I have since perceived that I had there, by mistake, attributed to the paper of Mr. Parkes, "On Steam-Boilers and Steam-Engines," a phrase that I had read in the work of Mr. Armstrong, *On the Boilers of Steam-Engines*, Preface, p. xi. Weale, 1839. The two works having come to me at the same time, and being precisely on the same subject, I had made an error in ascribing it to the one what in reality belongs to the other. This point is, however, without the least importance, having no reference to the arguments presented in my paper, and I correct it only for the sake of accuracy. Now the whole of this controversy is before the public.

The whole matter being so before the persons interested in those questions, every one of them, by recurring to the articles which have already appeared, will be able to judge which side of the question is the right one, and therefore it would be quite useless for me to say anything more on the subject.

I remain, Sir, your's, &c.,

G. DE PAMBOUR.

[We insert the letter of the Count de Pambour, but as we cannot see that any advantage would arise from the reprinting of a paper already before the public, and which would occupy considerable space, we have omitted its insertion. We shall be glad at all times to render our columns the medium of any communications which may develop new facts or opinions.]

CONSUMPTION OF SMOKE.

SIR.—If the correspondent whose communication appeared in your last, signed "T. H.", was not satisfied with the "highly satisfactory testimonial of the manager of the Liverpool and Harrington Water-Works," but "had the curiosity to examine the two 30-horse boiler furnaces himself," it is strange that he had not also the curiosity to inquire how much coal was saved, and how much more (or less) steam was required by the engine now than before the application of Mr. Williams's patent? Without this information, I consider both "T. H.'s" epistle, and Mr. Thompson's testimonial, as unsatisfactory evidence as any "speculative patentee" could venture to put before the public. As to "T. H.'s" "perfectly astonishing" fact, "that the instant the air was re-admitted to the patent air distributor the smoke died quickly away"—so it would, and does, whenever the furnace door is opened. This is the old smoke-burning trick of twenty years ago, which so effectively took in the late M. A. Taylor and certain other wise Members of Parliament, as well as various "scientific" and "speculative" patentees of that day.

I remain, Sir, your's, &c.,

Liverpool, Oct. 10. AN UNSATISFACTION ON THE SPOT.

CHEMICAL CHANGES IN MINERALS BY ELECTRIC AGENCY.

(From the proceedings of the Royal Geological Society of Cornwall.)

Mr. HENWOOD said—Sir Charles Lemon and gentlemen, as the subject of chemical changes induced in minerals by electric agency, to which my friend, Mr. Carne, was so well allied, has never been brought under the notice of this society, and as an attempt of mine to put my own views before another society, some years ago, was most unmercifully suppressed, I will take, with your leave, this opportunity of my last appearance among you to point out the present position of the question. Several years ago, Monsieur Berqueret, a French philosopher of high eminence, made, among other experiments, the following, which contains the germ and root of everything that has been done since. He took a glass tube, curved into the form of the letter U, and into the lower, or semicircular, part he put molten clay; one of the legs was filled with a solution of sulphate of copper, the other with some other saline solution. The two liquids connected by a sort of staple of wire, were one end being in contact with one liquid, the opposite with the other. After a short time that end which had been immersed in the coppery liquid became coated with crystals of sulphate of copper. M. Berqueret's admirable book had been long published, and I had a copy of it a great while before an eminent experimental philosopher in this country published to the world that, by the immersion of copper pyrites in a solution of sulphate of copper, and by its connection, when so immersed, with a plate of zinc, under circumstances which I need not recapitulate, he had converted the copper pyrites (which is a double sulphate of copper and iron) into sulphate of copper (vitriolic copper); and that this was by the abstraction of a portion of the sulphur and of the iron from their previous combination. I repeated the experiments, using a solution of sulphate of copper which was saturated (or would dissolve no more of that salt); my copper pyrites soon showed an iridescence—or became peach-colored—but, to my surprise, the colour became no deeper by being left several days. I then thought of M. Berqueret's experiments, and on placing a lump of the solid sulphate of copper in contact with the solution, it was rapidly dissolved, although, before the experiment was commenced, the fluid would dissolve no more of that substance. What, then, had taken place which rendered the solution, before baptism, now capable of dissolving more of the sulphate of copper? The answer was obvious—it had been decomposed during the experiment. The decomposition, too, was one of the most easy and obvious possible; the sulphate of copper consists of three different elements—viz., metallic copper, sulphur, and oxygen—and all that was effected was the abstraction of the oxygen contained in the sulphate

s insoluble in water, it had been precipitated on the copper pyrites (yellow copper ore), and coated it. It thus became most evident, that as the sulphate disappeared from the solution, the sulphur made its appearance on the pyrites. But if the iron and sulphur had been extracted from the yellow copper ore, they should have been found in the solution, for there was no means of escape for them. I accordingly tested the liquid remaining, and found no more iron in it than would have been, had there been no electric action. I also used solutions of sulphate of iron and of zinc, and, as far as I could discover, the sulphates of those metals were, in like manner, precipitated on the pyrites. I also used the nitrate of copper, but with this no change was effected on the copper pyrites. The changes, therefore, appear when sulphates are used, but not when nitrates are employed. I, therefore, hold it as proved that the change in the copper pyrites is a mere precipitate, and that the whole experiment is but a slight, unimportant, and obvious modification of what M. Bequerel has discovered and published several years previously. It had been discovered by Mr. R. W. Fox, and has been reported in scores of places by me, and in a few others by other parties, that currents of electricity traversed the metallic portions of copper and lead lodes. Mr. Fox had been unable to discover any in the lodes, and neither he, I, or any other English experimenter, had found any trace of electricity either in the rocks or in the non-metallic parts of the lodes. Two or three years since, however, Professor Reich, of Saxony, found that, by connecting a metallic with a non-metallic part of the vein or rock, he obtained a current, and, before that time, Mr. Christie, secretary of the Royal Society, had suggested that the apparatus employed might have originated the currents. As I knew that the galvanometers used by Mr. Fox, Mr. T. Petherick, Captain Bentinck (of Polierow), and myself, were not very delicate, it for a long time struck me that the use of a more sensitive apparatus might disclose currents where we had previously been unsuccessful. I accordingly obtained from Messrs. Watkins and Hill, one of the most delicate galvanometers ever made, and I have instituted a great many experiments in East Wh. Croft, which is a copper mine, and worked in greenstone, and at Rosewall-hill, the mine, which is in granite. In the former I had the aid of Captain W. Rutter, and in the latter of Captain W. Hollow. In both I obtained currents, not only from the copper and tin areas in the lodes, but also when a metallic point and a non-metallic one, or two non-metallic spots were connected; and this, too, whether the earthy matter formed a part of the lode, or whether it belonged wholly to the rock at a distance from the lodes. I also used zinc as well as copper points to connect the localities under trial with the galvanometer, and employed them either together or alternately. On many of these occasions, the reversal of the zinc and copper points reversed the directions of the currents; and at such times the directions were precisely those which would have obtained had the plates formed part of a simple voltaic arrangement. It, therefore, seems that induction often, if not always, proceeds through the rocks; and it has appeared that currents traverse the rocks as well as the veins; it also seems that though the action in the rocks is of the same kind as that in the veins, it is much less energetic; and as the reversal of the plates often reverses the direction of the currents, it becomes us to inquire what proportion of the experimental results yet obtained may be due to instrumental errors, or causes existing in the apparatus employed. I do not deny the existence of currents in the veins; but I must submit, that a very careful examination of the experiments yet made is requisite, in order to determine whether some portion of them may not have originated in the action between the veins and rocks, and the portions of the apparatus with which they have been in contact.

In answer to an inquiry by the Rev. John Pannet, Mr. HENWOOD said, that the quantity of action obtained when the rocks were experimented on, seemed to have no relation to the distances of the spots from the lodes; and that he thought to attribute all the electricity to the lodes (to the entire exclusion of any in the rocks) was not a strictly legitimate inference, and could only be maintained by admitting evidence of so doubtful a character as would be rejected in any court of law.

(We are requested by Mr. Henwood to correct his statement with respect to M. Bequerel, who used the "nitrate," and not the "sulphate," of copper, in obtaining the sulphur.)

IMPORTANT INVENTION IN MACHINERY.

Our attention has been called, by an article in one of the provincial newspapers, to a very important mechanical invention, for which a patent has recently been granted to two Scotch gentlemen, and which promises to effect a greater and more beneficial change in the working of machinery than has taken place since those most brilliant discoveries of Watt. The two great drawbacks of the steam engine (besides the large space it occupies) have been the bulk, and the consequent expense of the fuel which it requires—the latter preventing its application to many purposes for which it would otherwise have been a most effective agent; and the former impeding its locomotive energy and confining it, particularly as regards navigation, within comparatively narrow limits. Any reduction in either of these respects is thereby obviously so much clear gain. The invention to which we allude promises to effect a prodigious saving in both, by diminishing the expenditure of fuel to somewhat less than one-fifth of what is now required for an equal degree of power. It has already, we are informed, been put to the test by the construction of an engine of about 20-horse power, which has for some time been driving all the machinery of an extensive foundry with no larger consumption than we have just mentioned, and with every prospect of a considerably greater reduction being effected by some slight changes in the details. The motive power used is the common atmospheric air; and another great advantage of the new engine arises from a saving of space, equal to what is usually occupied by the furnace and boilers of a steam-engine. If these things be so, it is impossible to calculate the results to which so important a discovery must lead. The following is a description of the engine referred to:—

DESCRIPTION.

The air-engine now working at the Dundee Foundry, for which a patent was lately taken out, is the joint invention of the Rev. Dr. Stirling, of Glasgow, and of his brother, Mr. Stirling, engineer, Dundee. The principle of the invention consists in alternately heating and cooling two bodies of air confined in two separate vessels, which are so arranged, that by the strokes of two plungers, worked by the engine, the whole of the air contained in one of the vessels is sent to the lower end immediately over the furnace, and is consequently made quite hot, while the whole of the air contained in the other vessel is at the same time transmitted to the upper end, which is cut off from any communication with the furnace, and is therefore comparatively cold. The expansion caused by the heat renders the air in the one vessel alternately much more elastic than that in the other; and the two ends of the working cylinder, which is fitted with a piston similar to that of a steam-engine, being respectively connected with the two air vessels, a pre-compressing pressure is produced, by turns, on each side of the piston, which is thereby pushed to the opposite end of the cylinder, and so, by the alternate action of the plungers in the two air vessels, it continues a reciprocating motion, and is applied to turn a crank in the same way that a steam-engine does. It has been satisfactorily shown that this engine may be worked with very great economy of fuel as compared with a steam-engine. The principal means of producing the saving is this—that if the heat which is communicated to the air from the furnace, only a very small portion is entirely thrown away when it comes again to be cooled; for, by making the air, in its way from the hot to the cold end of the air-vessel, to pass through a chamber divided into a number of small apertures or passages, the great extent of surface with which it is thereby brought in contact, extracts from it the heat given, but only temporarily, the greater part of the heat, and afterwards restores it to the air on its passage back again from the cold to the hot end of the vessel. The process of heating is finally completed, by making the air pass through a number of tubes in which there is a current of cold water, and thus far the heat cannot be made available again; but the portion which is abstracted in this way is very small. As a sufficient expansive power could not be attained in so small a space without greater alterations of temperature from using air of the common density of the atmosphere, the air used is pretty highly compressed, and a much greater power is thereby obtained upon a given area of the piston. A small air-pump, worked by the engine, is therefore necessary to keep up the air to the requisite density; but very little power is expended on this; all that is required of the pump, after the engine has been once charged, being to supply any loss of air that may arise from leakage, which is found to be very trifling.

The machine has been working occasionally for above six months, and it has been proved to be capable of performing advantageously the amount of work which the inventors had anticipated from their calculations and previous experiments. It has now for upwards of a month been driving all the machinery at the extensive engineering works of the Dundee Foundry, where a steam-engine of approved construction had hitherto been employed to do; and it has been ascertained that the expenditure of fuel is, on certain portions, less than one-fifth part of what was required for the steam-engine; but as considerable improvements are contemplated in some of the details, it is confidently expected that a much greater saving will eventually be effected. The whole machine, including its furnace and heating apparatus, stands about the same space that a steam-engine of equal power would occupy without its furnace and boiler. Taking into account the saving of space along with the vast economy of fuel, this invention must necessarily be of immense importance for all ordinary purposes, requiring motive power. As an instance, it would reduce the expense of the power employed in driving machinery in India alone by at least 50,000, or 50,000, a year. But, viewed in reference to the purposes of navigation, it must lead to results still more extraordinary, and still render a voyage to India round the Cape by machinery & steam oil perfectly easy accomplishable.

PROCEEDINGS OF PUBLIC COMPANIES.

TALACRE COAL AND IRON COMPANY.

The adjourned extraordinary general meeting of the shareholders in the above undertaking was held at their offices, 20, John-street, Adelphi, on Wednesday, 13th inst.

W. CHAPPELOW, Esq., in the chair.

The circular convening the meeting having been read, the CHAIRMAN read two letters addressed to the chairman of the meeting.

Mr. Alderman Wood complained that an advertisement had appeared in the *Morning Chronicle*, stating that he was to take chair at the present meeting, and requested to know if it was inserted by any of the directors? He said it was a vile attack upon him to prejudice the minds of the proprietors against him—he knew nothing about it in any way whatever.—Mr. TAYLOR stated that the directors knew "nothing about it," and contradicted it in the next appearance of the same paper.

The CHAIRMAN then stated that out of 140 circulars sent to the proprietors, to invite them to contribute means to enable the committee to take legal proceedings against the concoctors of the company, and to wind up the affairs of the company, only three answers had been received, the writers of which pleaded their inability to do anything towards the object contemplated. One of the three letters, from shareholders in Nottingham, which were read, stated that Mr. Richard Rawson (no relation to Mr. E. Rawson, of London) had been paid £100. to purchase two 30/- paid-up shares, but instead of doing which he put down the party's name for eight shares, and paid the deposit thereon, therefore it was contended that the party was not liable for any further payments; the letter concluded by expressing the sorrow of the writer for imputing such improper conduct to a person from whom uprightness and integrity of conduct were so much calculated upon.

Mr. TAYLOR was then about to read the report of the committee, but Mr. WIRE stated that it was not a fair report, there having been but one meeting, and he not being in town could not attend; he came to London once, but the secretary was not present with the accounts; he had no idea that he should have been called out of town so suddenly.—Mr. EDWARD RAWSON stated that he had been carefully through all the accounts with Mr. Taylor, and all they could do had been accomplished.—Mr. WIRE again said that he had nothing to do with the report.—The report was then read, as follows:—

REPORT.

Your committee have made such inquiries into the general state of the finances of the company as the imperfect nature of the accounts will admit, and it appears to them that, apart from the question of the legality or justice of the purchase, and the payment of such large sums on that account, there has been a degree of negligence and improvidence in disbursing the funds of the company highly reprehensible and incompatible with the prudence and economy necessary in carrying on operations on such a scale as would be requisite to obtain the results held out in the prospectus, and confidently looked forward to by the proprietors. The books of the company require close investigation and revision, for the circumstances do not appear to your committee to warrant so large an outlay as appears to have been expended under the various heads hereafter named. The expenses which have been supplied of the Dublin accounts, which, from the acknowledgement of the secretary himself, as well as other evidence, seem to demand particular attention, have been forwarded to Mr. Birr, the manager at the works, for his investigation; we believe him to be an excellent accountant, and, from his experience in matters of this character, well fitted for inquiry into accounts so vague as those appear to be; as there is no doubt of deficiencies existing, we recommend, that on the amounting correctly ascertained, proceedings be instituted to recover the same. It is not practicable, neither indeed is it necessary, to enter into any minute or close statement, but sufficient information has been obtained to enable us to lay before you a general view of the state of your finances.

It would appear that about £1,000. has been received and expended by the former directors, viz.:—Paid by English shareholders, about £1,000.; ditto by Irish ditto, 55 mil.; ditto debenture, £2,000.; received for produce, £300.; losses and advances, 50 mil.—Total, £5,000. There appears to have been expended—in cash sent to the works to March, 1841, £2,442.; bills paid on account of ditto, about £350.; paid on account of purchase, £6,361.; to be accounted for, £100.; and received at and expended at the works, about 4,000.—Total, £10,000. These figures are sufficiently near to give you an idea of the manner in which the finances of the company have been managed.

We were told in the prospectus that £4,000. would sink fifteen pairs of pits; very near that sum has been expended, independent of cost for purchase, and not one pair of pits have been sunk by the company; but IQ's to the existing liabilities of the company that we have more particularly to direct your attention. For the more clearly ascertaining the nature of the claims made upon us, and the more judicious manner of treating them, we have divided them into three classes:—

1. Claims for goods supplied or services done for the company; against which, after due inquiry shall have been made, it may appear there can be no just cause after due inquiry shall have been made, it may appear there can be no just cause against payment.

2. Claims which are either objectionable in themselves, that demand inquiry, or where, from certain circumstances, we think some compromise might, or ought to be made.

3. Claims that we consider unjust and fraudulent in their nature, and should be resisted by the company.

The first appear to amount to about 4000., the second 18,000., and the third 10,000.—Total, £38,000.

In regard to the first named claims, made for articles actually supplied to the company, and for some of which bills are said to have been given, which were disallowed, there can be but one opinion; when ascertained to be correct they should be discharged. The second are demands of a nature which your committee think might admit of considerable reduction, and if these can be adjusted satisfactorily, we hope that the two may be liquidated by the payment of the calls now due, and those due in December, as by the proposed arrangement of advancing money, to be placed in the hands of trustees. The third set of claims amounts to 10,000., which is so serious a sum, that if itself it is sufficient to demand and receive the most careful consideration, and would appear, in the present state of the resources of the company, to present an insuperable difficulty.

Your committee have endeavoured, calmly and equitably, to ascertain the nature of the transactions which gave rise to these bills, and to the amount of 20,000. already paid on account of purchase, and they feel impelledly called upon to declare their opinion, that the payments and liabilities relative to the purchase are most unjust, and that the attempt to carry out those arrangements of the original directors and others, must entail ruin upon many of the legitimate shareholders. Your committee strongly advise that the payment of these be resisted to the utmost, and that the acting directors, either of themselves, or in connection with a committee, should be empowered to take such steps in relation thereto as they may deem advisable.

Your committee think that the whole of the accounts and papers should be submitted to examination, and your committee forwarded a list of the claims, and the copies of the books sent from Dublin, to the manager of the works, to examine and report thereon, and the following letter has been received from him, viz.:—"Yours of the 4th inst., also the parcel containing books, &c., are to hand. I am sorry to say that it will be impossible for me to report upon them without the following books—viz., Journal day book, sales' ditto, bill book, bankers' ditto, and all and everyoucher belonging to the Dublin branch, as also their letter book. If, however, there are none of these, I must say I never, in the whole course of life, met with such a set as those in my possession, present, and no man studying his character would have returned them to his employer." That your committee have requested the Dublin secretary to forward the books required from Dublin, but up to the date of signing this report they have not arrived. That your committee have sent circulars to every proprietor, requesting to be informed what calls they are willing to advance in a fund to pay the just claims, and also to those shareholders who have not paid their calls, requesting to know when they will do so, and the replies received your committee will produce to the meeting.

After, and during the reading of the report, Mr. TAYLOR read extracts from several letters; the following from Mr. Birr, the manager, we consider of such importance as to warrant its insertion:—

"I have taken a hasty glance over the company's Dublin books, likewise had rough ledger entries made of the principal accounts, but from the complicated and confused-like manner in which they appear to have been kept—at the same time, it being my opinion, they are not true copies of the original ones, I consider it of the utmost importance to have those now in the hands of the secretary of Dublin, directors, with all the vouchers. The errors I have already been able to detect, amounting to £4,116. 16. 0d., evince the more the more, that by having the original books a greater amount of deficiency will arise. It is painful to me, but I am compelled to say, that a more disgruntled set of books never went through my inspection; and further, that the secretary is deserving very severe censure, and should I even attempt to draw a balance of them, I should consider it injurious, and an insult to the proprietary's charge."

Mr. TAYLOR stated that there was a deficiency of 91,000.; they had not been able to procure the Dublin books, and that no doubt there had been gross mismanagement relative to the expenses incurred in Dublin; the Dublin directors, acting under the advice of Mr. Hornidge, had refused to send the books, therefore the correctness of their accounts could not be ascertained.—Mr. HORNIDGE explained, that the Dublin directors would send copies of the books, &c., but they would not part with the original documents.—Mr. TAYLOR replied, that the committee were empowered to demand books, documents, &c.—whilst, on the other hand, Mr. HORNIDGE contended that Mr. Taylor assumed powers to the committee to which they were not entitled.—Mr. TAYLOR replied that it was a great pity the books had not been produced, as, doubtless, they would have removed all doubts; he had written two or three times to say that if they did not have the proper books it would be impossible to make a report.—Mr. HORNIDGE said that the books would be sent to him, but would not be suffered to go out of his custody.—Mr. RAWSON was ready that, being on the committee, he was not, therefore, bound upon an honest man; he could not see why he should not be trusted with the books.—Mr. WIRE thought that the publication of Mr. Birr's letter was dangerous.—Mr. TAYLOR explained, that the secretary had admitted that there were deficiencies.—Mr. ALDERMAN WOOD was anxious that the accounts should be further investigated; he wished to know whether the observa-

tion of Mr. Taylor, relative to the 91,000. deficiency, applied to the expenses in Dublin and London? Did not the greater part of the amount—say 90,000.—apply to Dublin?—Mr. TAYLOR replied that it certainly did not—whilst Mr. RAWSON stated that the greater part of the amount certainly referred to Dublin; he had no doubt but that if the books were produced it could be satisfactorily accounted for.—Mr. ALDERMAN WOOD was certain that the deficiencies, as far as they referred to London, could all be satisfactorily accounted for; he advocated a further inquiry, and entered into a dissection of the report which had been read; he wished that the classification of the liabilities should be further inquired into. The first class—the report stated they were bound to pay; in the second, some were reckoned bad and others good; and the third, which amounted to 19,000., were objectionable altogether; under these circumstances, the only course to pursue was the fullest investigation. The hon. Alderman then moved a resolution to that effect.

Mr. EDWARDS wished to know if the proprietors would hear any more of the original report?—Mr. TAYLOR said that he was about to propose, in reply to Mr. ALDERMAN T. WOOD's motion, that the original report should be read; he stated that the gentlemen present who had counter-statements to make had been given every opportunity, but as yet no satisfactory answers to the accusations contained in that report had been made. When the question was first brought before the proprietors, in February, he (Mr. Taylor) had stated his belief that there had been gross fraud and collusion practised in the purchase of the property; he then merely spoke from what he had heard from various parties, and had no documents. A committee had been appointed by the shareholders, to investigate these charges, and, by actual documents, had proved the truth of his statements; that committee's report was the one he now moved should be read; he had told the meeting at the time he alluded to those circumstances, that he should "nothing extenuate, nor set down ought in malice," and he had kept to his engagement. It had been stated that there was in his statements gross imputation, and but a little leaven of truth, yet facts had come out which proved that the leaven of truth was very large. He then concluded, by moving that the report be read.—A. PARSONS wished that the report should be read, and did not think it fair that comments should be made by Mr. Taylor.—Mr. TAYLOR stated that he wished to relieve the committee from the imputation which had been cast upon it by the machinations of bad men.

Mr. WIRE, amidst great noise and confusion, stated that they were not going on in accordance with the object of the meeting; it was not by casting imputations from one party to the other that the difficulties would be relieved, they should, on the contrary, unite and meet them, and do their best to get out of them; if they pursued their present course, the proprietors would be plunged into endless litigation.—Mr. TAYLOR thought Mr. WIRE would not willingly impede public justice; he had risen to propose a resolution in reply to Mr. ALDERMAN T. WOOD, and he could comment as he pleased on the subject of his motion. He was stating that he went to work with a full belief that the statements about the value of the property were not true, and was determined that his little all which he had invested in the company should not be lost for want of exertion on his part; he found that the Picton property was not the property it had been represented, and from the reports of two able and experienced men, as well as his own observations during the three months he was on the spot, he was fully convinced that the company had been grossly imposed upon by the exaggerations of the value of the property. The particulars thus obtained were, together with what correspondence and books that could be obtained, put into the hands of a solicitor to see in what manner the property had been purchased, and the report that solicitor had given in was the one that he wished to have read; a counter-statement had been prepared with all the skill and ingenuity that the other party possessed.

An angry conversation then ensued between Mr. DEPUTY WESTON and Mr. ASHURST, which ended in the greatest confusion. Mr. WESTON stating that the report in question "began with a lie and ended with a falsehood." Upon this the confusion and noise that prevailed was indescribable. When quietness was a little restored, Mr. TAYLOR moved that a committee be appointed to take such steps as they may think proper in relation to the claims made upon the company; that the said committee do act as trustees of any money that may be collected, and that the report of the now acting Loudon directors, with the explanatory statement of the original directors, be read, and printed and circulated amongst the proprietors.—Mr. RAWSON would not object to the reading of the report, provided the explanation was read afterwards; he would not have it said that the report had been shelved and smothered; the report was full of inferences and mis-statements, whilst the explanation was full of facts.—Mr. HANDYSIDE seconded the motion for the reading of the report.—Mr. WESTON expressed his firm opinion that no money would be raised if it was read.—Mr. RAWSON objected to the report being read, and thought that a committee to investigate the accounts would answer every purpose; he confessed he was a little disappointed at not having received a reply from Dublin as to the subscription.—Mr. HORNIDGE stated that he was prepared with a reply.—Mr. RAWSON stated that he would decline again acting upon any committee, if the Dublin books were not placed in the hands of the committee; no documents had been supplied from Ireland to clear up the mystification and darkness that the accountants were involved in.

Mr. ASHURST strongly recommended the reading of the report; there were threats of action open. Bills of Exchange pending upon the proceedings of that meeting, and the longer the consideration of the legality of these bills was put off the more certain was the entire ruin of the bondholders; the actual liabilities they might raise, but the purchase-money (19,000.) was almost out of the question.—Mr. ALDERMAN WOOD agreed with Mr. ASHURST's suggestion, and had no objection to the two reports being read, but if the shareholders wished to judge upon the formation of the company, they should form a committee of a body of the proprietors, and take a chronological report of the whole of its affairs from the very beginning; he did not wish to screen a single fact connected with the company; he wanted the question of the 19,000. to be gone fully into, and if the claim were found to be unjust all would combine to resist it; if on the contrary, it was found to be just, all they had to do was to pay it in the best manner they could; they either had or had no property—they were either liable to pay or were not—these were the questions to be decided; what was the use of meeting after meeting; their business duty was to "take the bull by the horns," not suffer him to transpire them to pieces; if error was proved to have been committed, then let the guilty be punished.

Mr. WOOD observed that they had not yet heard the result of Mr. HORNIDGE's application to the shareholders in Dublin.—Mr. HORNIDGE stated that the feeling of the Dublin directors was, that it was due to themselves and the shareholders that the report submitted to the meeting on the 15th of September, and the answer delivered on the 30th should be read and printed; the Dublin shareholders were ready to pay up their calls, but would not do so until the liabilities they had imposed upon themselves in signing bills were removed; they were willing to pay the calls, but were unwilling that the money so raised should be applied to pay off the liabilities of the company in England, whilst many had rendered themselves individually liable, and had besides a debt of £1340.; he had consulted Mr. SHAW, Mr. MACMASTER, and many others, who all agreed in what he had stated; he inquired—had they a board of directors in London? He did not think they had ten directors, and if they had not their proceedings were illegal.—Mr. ASHURST did not think that ten bondholders could be found qualified to become directors.—Mr. HORNIDGE could find them in Dublin.—The CHAIRMAN stated that he had been given to understand at the last meeting that several gentlemen in Dublin were ready to advance their thousands with the shareholders in London to pay off the liabilities, but now it appeared they would pay nothing.—Mr. HORNIDGE remarked, that if the directors got in the cells to arrest they would not have many liabilities left.—The CHAIRMAN said that if all acted like the Dublin directors there would be no money raised; he was sued for £8,000., and was threatened for an equal amount.—Mr. ALDERMAN WOOD stated that he was sued for 7000.

The CHAIRMAN then put the question, that the report be read, which was carried.

Mr. ASHURST was accordingly about to read it, when he was interrupted by Mr. SHAW, who claimed to be heard.—The CHAIRMAN then stated that there was a charge against Mr. SHAW for having received money from a party in Keworth for the company which he had not accounted for.—On this charge being made the speaker was interrupted. Mr. SHAW denied owing the sum in full.—Mr. WIRE was very indig-

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ROYAL INSTITUTION OF CORNWALL.

ment, stating that it was most unfair, and that he was ashamed of the whole proceeding.—Mr. Housman demanded the name of the party, and on his promise to be satisfied if an answer was given, the CHAIRMAN stated that Mr. Aitkin, of Kegworth, held a receipt signed by Mr. Shonbridge for £40/-, which did not appear upon the books of the company, and had not been accounted for.—Mr. Housman declared that the whole was false, and then sat down amidst the greatest imaginable confusion.—Mr. Asturay then read the report prepared by him at the request of the directors, which will be found in another column; its great length, however, precludes the possibility of giving insertion in our present Number to the counter-statement read by Mr. Hornidge, but which will appear in our next—the importance to be attached to the inquiry rendering it highly desirable that both documents should be given entire.—Immediately after the reading of the report by Mr. Asturay, the counter-statement of Messrs. Wood, Weston, Davis, and others, in explanation, was read by Mr. Housman.

Previous to the reading of the reports Mr. Alderman T. Wood said he regretted that in consequence of a domestic calamity he should not be able to stay, but he gave the directors notice that he should claim to make some observations hereafter.—Mr. Deputy Weston claimed the same indulgence.—Mr. Taylor also claimed the right of giving an answer to any fresh statements that might be made.

After the reports had been read, Mr. Rawson said that it was quite absurd to suppose more than 5/- or 10/- per share would be called for.—Mr. Weston calculated upon 15/- per share.—A conversation then ensued upon this subject, which was concluded by Mr. Beddoes expressing a wish that the meeting should adjourn to consider the reports, nothing could be said upon them at present. It was most important that the dates of the two statements should be compared?

Mr. Weston wished to know what was to be done with the actions then pending.—Mr. Wynn stated that they must be individually defended.—Mr. Beddoes recommended that money should be solicited from each shareholder, and if that did not succeed, the sooner they got the whole affair into Chancery, for its dissolution, the better.—Mr. Wynn could almost agree with all that Mr. Beddoes had said, but they must first get rid of their difficulties, then go to Chancery.—Mr. Asturay had some notion that bills founded in fraud could be got rid of. Most of the liabilities consisted of bills in the hands of third parties.—Mr. Beddoes thought that there would be no difficulty in proving the illegality of the partnership, from the circumstance of six important posts being filled by one individual, he alluded to Mr. Alderman T. Wood having been director, chairman, vendor, purchaser, solicitor, and trustee; no party holding all those contrary situations could act fairly. It had also been stated that there were seventeen original proprietors, whereas only eight parties appear in any of the deeds.

Mr. Asturay was glad that Mr. Beddoes had attended the meeting. There was one point he must allude to, although he was sorry to do so in Mr. Alderman Wood's absence. He could not imagine how any lawyer could have placed himself in the position Mr. Wood had, by having sold, purchased, drawn up the deeds, and, indeed, managed the whole concern himself—till it was inexplicable. He (Mr. Asturay) then entered at some length into the subject of the illegal formation of the company, and advised that the whole affair should be put into the hands of a committee, and which should be empowered to take such steps as they thought proper to secure justice to the *bond fide* shareholders. If, as had been recommended, they should go to Chancery, there was but little doubt but that they should get a decree, still they would only have a barren result, as all the parties would not be able to meet it. The liabilities amounted to £3,000/- The three present acting directors had rung staring them in their face; judgment had been recorded against them, all of them have families, and if something was not done, they must go to prison; the only chance for their escape existed in the appointment of a committee of *bond fide* shareholders.

Mr. Deputy Weston stated, that instead of £3,000/-, the liabilities might be reduced to £5,000/- As it had been hinted that parties had had part of the money received by Lawson and Baker, he declared most solemnly, and would say it, if it were the last word he had to speak, that he never received, either directly or indirectly, one farthing of the £20,000/- It was not correct to throw out such insinuations; he thought the renewal of the bills had been managed most injudiciously; instead of the instalments being paid monthly, they ought to have been yearly. He had stated the same in February, and felt assured that if it had been so, many other free shares would have been given up for the benefit of the company; but the bills had been accepted, and, being in third hands, he did not see but that, by law, they were bound to pay them. It would do no good to plunge the company into Chancery; if they did, for his part, he must go to prison—he was now a poor man. He had been as great a loser as any man present; he only got a few trumpery shares, which he sincerely wished he had never seen.

Mr. Asturay could not understand how property, the lease of which was worth nothing, could, in ten months, be worth £10,000/- Mr. Weston stated, that there was no property like it.—Mr. Beddoes wished to inquire of Mr. Weston the circumstances connected with the shares he received from Mr. Baker?—Mr. Weston, after some hesitation, replied that Mr. Baker asked him to perform a trust for him to hold those shares, but nothing on earth should induce him to divulge the secret without Mr. Baker was present. Mr. Baker, at that time, had his entire confidence, but on his turning out so different to what he expected, the shares were given up and cancelled.

Mr. Housman again alluded to proceedings in Chancery, but Mr. Asturay stated that it would be useless, as there was but one solvent party in the lot. It was remarked, that Mr. Alderman Hodges had retired from business—circulars having been sent out, stating that his brother had succeeded him.—Mr. Asturay stated, that Mr. Alderman Hodges was the party he alluded to as being the only one solvent.

A long discussion then ensued as to the best means to get rid of the most pressing liabilities, during which Mr. Housman was again asked what the Dublin shareholders intended to do, when he stated that the Dublin proprietors would come forward to settle their own liabilities; and as to the bills, he felt certain, from the hands they were in, that every shilling would have to be paid.—After some further conversation, it was resolved—"That the meeting be adjourned until Wednesday, the 3d of November, at this office, at one o'clock precisely, and that a committee be appointed to take such steps as they may think proper in relation to the claims made upon the company, and that the said committee do act as trustees of any money to be collected."

A curious discussion then commenced, for, after all the claims Messrs. Wood and Weston and their party had made to have the counter-statement read, as well as the acting directors' report, nobody would acknowledge that it was theirs; Mr. Wynn denied it altogether, as also did Mr. Weston; but at last Mr. Taylor asked Mr. Hornidge to explain, as he read the reply, whence it was?—Mr. Housman then stated, that it had been read by Messrs. Wood, Davis, and Weston, and subsequently by Messrs. Hodges and Hyndman, of Dublin, and that they only regretted the explanations were not fuller.—Messrs. Chappelow, Taylor, and Handyside were then appointed to act as the committee.

Mr. Sloughter (solvent for Sir E. Montagu, the lessee) stated, that Sir Edward was quite astonished when he heard that anything had been given for the lease, and that the property was held at a rock-rent and full reversion. He considered that the reversion and rock-rent was their full wage.—A vote of thanks being passed to the chairman, the meeting adjourned.

DUNSMORE RAILWAY.—This undertaking is rapidly progressing towards completion. Hundreds of masons, quarrymen, and labourers, are to be soon employed on the works, from the Crescent of Chintar to Newards. In a few years the directors hope to have the line extended to Armath.—*Bidder's Mining Post.*

SOUTH-EASTERN RAILWAY.—Great activity prevails on the line of the South-Eastern Railway, near Tunbridge; the workmen are employed night and day, and it is reported that the road will be opened as far as Tunbridge in March next.

COST OF LOCOMOTIVE POWER.—The North Midland locomotive power costs £14/- per mile; the Birmingham and Gloucester is stated to cost £25/- per mile; the North Midland, however, gets their coke at 12s. per ton. Very different is the case with the Birmingham and Gloucester. The London and Birmingham appears to cost 2s. 6d., and they ought to get coke quite as cheap as the Birmingham and Gloucester; we can only make this latter line to cost not quite 18/-—the miles run, including the Linkley, being 129,747, and the cost £0,130.—*Railroad Monthly Journal.*

The annual meeting of this society was held in the room of the institution, and was well-attended.

Sir CHARLES LEMON, Bart., in the chair.

Mr. W. M. TWEDDY (the secretary) read the report, which alluded to the recent meeting of the British Association at Plymouth, and stated that although few of its members had visited the museum, and no general communication had been received from them, many of the subjects that came under consideration were of much practical value to this country, and then spoke of the contributions which the association had received from Mr. Couch on the zoology of the county, and which would soon be published; and also of the persevering researches of Mr. Pusey in his fossil geology of the county—these gentlemen were both members of the institution, and the latter had presented a considerable number of specimens to the museum; this department had also been further enriched by donations from Mr. Pattison, of Loughborough, and Mr. Bux, of Loxe. Dr. Barham's investigations into the causes of death amongst the mining population were next noticed, and some of these results, which have been already partially made known on former occasions, were more explicitly dwelt upon; Dr. Barham was also officially engaged in an inquiry into the health of children employed in the mines, which would afford him much valuable information on the equally important subject of the comparative health of the miner. Since last year the floating debt had been decreased by £60/-, and it was proposed to have, next summer, a fancy bazaar, to assist in getting rid of the liabilities, there being still £300/- remaining as a debt due by the institution. The report concluded by an expression of pleasure that the society had been able to carry on during the past year several of the researches in which it was engaged in conjunction with the two other scientific societies of the county; for "a mutual interchange of good offices, and a co-operation in those subjects which admit of it, must be useful to all, and lead to exciting scientific research and promote the communication of its results."

The treasurer's report was next read, and showed the receipts during the last twelve months to have been £203, 17s. 6d.; and the expenditure £109, 14s.—leaving a balance in favour of the society of £1, 3s. 6d.

Mr. Evans moved that the report be received and adopted; the report afforded distinct evidence that they moved hand in hand with the other societies in this country, and he trusted that the friendly rivalry would lead to the advantage of all.—Mr. TURNER seconded the motion, and alluded to that part of the report which spoke of mine accidents; the hon. gentleman thought that many of the accidents were attributable to a want of due caution on the part of the miners, and alluded particularly to the case of the man who was killed on the previous Wednesday, by falling to the bottom of the working in Tresavas Mine; as he was on the mine at the time, he made inquiries into the cause of the accident, and found that the man, who lived at Wendron, which was a great distance from Tresavas, was an industrious person, and was trying to do five hours' work in four; it was thus, he thought, that many over-worked themselves, and were in consequence subjected to accidents which would otherwise not take place.

MINERALS OF UNCOMMON OCCURRENCE.

Mr. W. M. TWEDDY read a paper of his own on some notices of minerals of uncommon occurrence recently found in Cornwall. They were wood, tin, mineral pitch, the pseudo-morphous crystals found in Wheal Coates, and native bismuth.—Until the last few years, the existence of wood-tin in the Cornish tin lodes had not been known; though there could be little doubt that the fragments of wood found in steam-works had been portions of veins or beds. Wood-tin in the lode, was first noticed at Balleswidden, in St. Just, where it occurred mixed with a reddish-white felspar; it had since been found in a mine in the parish of Roche, and in St. Agnes. Specimens from each of those places were presented and technically described by Mr. Tweddyl.—The occurrence of mineral pitch in the Cornish copper lodes was of rare occurrence. Many years since, some were found in Trewherry, and more recently it had been obtained in white quartz, at East Wheal Crofty.—The interesting subject of the detached crystal of tinstone and sandstone in the form of crystals of felspar, found in sand at Wheal Coates, was again spoken of; and reference was made to the paper read last week by Mr. Corse, at the meeting of the Geological Society at Penzance. Mr. Tweddyl presented a large number of specimens, showing the process of change in various stages, and he particularly directed attention to some in which the infused portion of tinstone had not sufficed to fill the cavity left by the felspar, in which case crystallisation had taken place, and the tinstone had assumed its natural form.—Native bismuth, until recently, had only been noticed as occurring in small quantities disseminated through the matrix, commonly of jasper, which, Mr. Tweddyl observed, had excited a strong suspicion in his mind, when the specimens on the table were first shown, that they were artificial. A comparison with others, and an analysis by Mr. Pridgeaux, had convinced him that his suspicion was not well founded. The specimens had been found in a large unproductive lode in the neighbourhood of Truro. In St. Just also, some fine specimens had been recently obtained.—Schiller spar has occurred at Levant, with pearl spar of very great beauty.

FOSSIL ORGANIC REMAINS.

Mr. PEACH, of Gorran, read an interesting paper "On the Fossil Organic Remains of the South-east Coast of Cornwall, and of Bodmin and Mevagissey." To many of our readers it is known that Mr. Peach has pursued the study of fossil geology in Cornwall with an assiduous perseverance that would have done honour to many whose names have been rendered famous for their pursuit of knowledge under difficulties; and the result of his inquiries has been the accumulation of a vast number of facts bearing on some interesting theories with reference to the primitive geological state of this county; the paper was accompanied and illustrated by a number of specimens and drawings. The places in which Mr. Peach had discovered fossiliferous rocks and strata, were Verran, Gorran, St. Austell, Porthpean, Charlestown, St. Buryan, Tavyrwith, Polkerris, Fowey, Lanteglos, Polruan, Tolland, Portloe, East and West Looe, Bodmin, and Mevagissey.—A conversation took place on the part of Mr. Peach's paper in which he spoke of the occurrence at Gorran of fossil shells, "parted by the cracking of the rock, and the spaces filled by a vein of white quartz"—the parts of the shell, as it were, heaved, showing the manner in which mineral veins have been thrown out of their course.—Mr. R. W. FOX was of opinion that the fact stated by Mr. Peach, and some other analogous facts, certainly proved that the veins were formed subsequently to the deposition of the organic remains, and that the veins were not to be attributed to igneous action, because if the siliceous veins had been injected in a state of fusion, it would have decomposed the shell more decidedly than it seemed had been done. He thought they must conclude that the siliceous matter had been deposited by chemical agency going on very slowly in the rock itself. In confirmation of this view, Mr. Fox stated that Mr. Hunt had discovered the existence of siliceous in the water of the mines of Cornwall, which would be deposited when it came in contact with bodies with which siliceous may combine.—Dr. BARHAM (if we rightly understood him) was of opinion that, supposing fissures to have taken place in a rock, it was possible that any substance at any temperature may afterwards have been deposited without affecting a body placed at the sides of the fissures.—Mr. W. M. TWEDDY doubted if it was necessary to assume that siliceous veins had been infused at a high temperature, since water containing siliceous would account for the deposition. Mr. Tweddyl raised the question, supposing the silica was injected at a high temperature, it would necessarily have destroyed the substance of the shell; as in the rocks of Cornwall they found that the substance of the shell, the calcareous part, was almost always removed. They had only the east, showing that the shell had been there.—Mr. PEACH said it was not an inevitable rule that the calcareous matter of the Cornish fossils was destroyed. He had found a great many with the calcareous matter on them, but wherever those organic remains were found still retaining calcareous matter, the rock on which they were found appeared to limestone. Mr. Peach pointed out two specimens on the table which were still highly calcareous, as might be proved by applying acids, in which they would freely effervesce.—Sir C. LINDLEY and Mr. MOYSE also joined in the conversation on the subject; the latter gentleman speaking of the gradual deposit of siliceous matter which he had witnessed, in fissures formed by earthquakes; on which Mr. Fox spoke of the Geyser springs, as being surrounded by siliceous deposits in various degrees of hardness.—Mr. PEACH presented some specimens of *lysma* *oxydaria* and —— *oxysira*, attached to the wing feathers of gulls. Mr. Peach stated that he had obtained a specimen of sea weed, evidently recently detached from its place of growth, which had a large number of these shells attached to it.

YELLOW SULPHURET OF COPPER.

Mr. W. M. TWEDDY then read a paper, written by Mr. Robert Hunt, the secretary of the Cornwall Polytechnic Society, describing some experiments undertaken with a view of examining the nature of the decompositon which takes place in the yellow sulphuret of copper when made part of a galvanic circuit, and leaving a practical bearing on the condition in which ore is found in this county.—The paper having been read, the thanks of the meeting were addressed to Mr. Hunt.

EARTHQUAKES.

Dr. BARHAM here read a paper by Mr. W. J. Hennard, F.R.S., F.G.S., "On the Shocks of Earthquakes which have been noticed in Cornwall and Devon." The shocks of which Mr. Hennard had been able to discover records or obtain information were five in number: the first was on the 23d of February, 1732; the second, on the 13th of July, 1737; the third, on the 2d of October, 1807; and the last, on the 2d of January, 1808. The first is described by Miss Grey, in her *Journal of the Times and Passy*, vol. 1, page 320; the second is referred to Dr. Barham's *Natural History of Cornwall*, pp. 220-221; the third was noticed to the Cornish Gazette of the 22d of October, and 3d of November, 1807. The fourth shock is said to have been felt

at the Scilly Islands; and an account of it, by the Rev. George Woodley, of St. Mary's, was read before the Royal Society on the 2d of February, 1839.

HEALTH OF THE MINING AND NON-MINING POPULATION.

Dr. BARHAM made some remarks on results obtained by him from a minute abstract of the register of deaths for the parishes of St. Mary, St. Clement, St. Allos, St. Erme, St. Agnes, and Perranporth; these results were arranged in a series of tables, which exhibited the male and female mortality at different intervals of age, from one day up to 100 years.

Mr. PEACH read a few brief extracts from notes on natural history, which he is in the habit of making of any remarkable facts or occurrences that come within the scope of his observation.

The thanks of the meeting were voted to the several authors of papers contributed to the institution, and to Sir Charles Lemon for his conduct in the chair; Sir CHARLES, in reply, said that, being the head of the three principal scientific bodies of the county, it was his anxious wish to do his duty to all, without preference to any, and it was highly gratifying to notice the progress of this society—the objects it had in view, at its formation, had been fulfilled, and other things had been since taken in hand, which had been attended with nearly the same success, so that the duties that had devolved upon the society were very important; all that was wanted to give greater effect was that the funds should be a little larger, and he hoped during the present year many would take the matter into consideration; and perhaps larger funds might be obtained; he was persuaded the more the institution was known the more it would meet with favour from the public.

PROPERTIES AND CHEMICAL CONSTITUTION OF COAL.

[Concluded from page 322.]

The value of anthracite coal for the purposes of fuel becoming daily more apparent, it may be desirable to state the cause of its combustion being so much more difficult than bituminous coal.

The attraction of cohesion among the constituent particles is greater in anthracite than in any other description of coal, and causes its extreme hardness. To overcome this force, and to separate the particles to a sufficient distance from each other to enable the chemical affinity of the oxygen for the carbon to overcome the attraction of cohesion, which exists between the particles of carbon for each other, a greater heat is necessary than for the production of the same effect in any other description of fuel. Unless, therefore, the heat to which the anthracite coal is exposed be sufficiently intense to overcome this cohesive attraction, no chemical union between the oxygen and carbon takes place. Whatever, therefore, lowers the temperature of the burning fuel sufficiently to restore the predominance of the attraction of cohesion over that of the chemical affinity, at once stops the combustion, notwithstanding the otherwise favourable circumstances in which it may be placed, in consequence of a rapid draught, or whatever else tends to promote combustion in ordinary cases. If, however, the fuel be maintained at a high temperature, a comparatively small supply of air will maintain the combustion, although it will not produce the maximum effect which under other circumstances will be obtained. E.g., in this case, the product of the combustion escapes in the state of carbonic oxide; in the other—viz., that of complete combustion—the product is wholly carbonic acid gas.

When anthracite is suddenly thrown into a hot furnace it splits into innumerable small pieces, and these lie so close together that they effectually stop the immission of the air necessary to support the combustion. The extreme fragility of anthracite, when thus suddenly heated, arises from carbon being a slow conductor of heat; from which cause the outside portions, when heated, expand and separate from the still more central portions. With coke and charcoal this effect is obviated by their porosity, which gives to the mass a sufficient degree of elasticity to resist this action—and with common coal the elasticity is produced by the bitumen. The fragility of anthracite may, however, be almost entirely obviated, by slowly heating it before it enters the furnace. By this means the combustion is greatly promoted, and the greatest possible effect will be produced when this is combined with the method of introducing heated air into the furnace.

Several methods have lately been tried for obtaining an artificial fuel possessing greater calorific power than coal or coke. Various mixtures have been proposed, consisting principally of coal dust and coal tar—sometimes simply in this binary combination, and sometimes mixed with calcareous siliceous, and other substances. The addition of coal tar undoubtedly increases the heat which may be obtained from a given weight of fuel, for calculating by the theoretical data already given, it appears that if the coal tar be converted into two-thirds carburetted hydrogen, and one-third carbonic oxide, it will produce from a given weight about 30 per cent. more heat than coal. Professor Buckland has described the results of some experiments made on this description of fuel (*Report Brit. Assoc.*, vol. vii. p. 85), by which the increase of effect appears very considerable. But the mode of experimenting is not sufficiently detailed to judge how much of the effect is due to the chemical nature of the mixture, and how much to the difference in the quality of the coal with which the comparison was made. The only mode of obtaining any definite result would be by comparison of the same quality of coal—first in its ordinary, and then in its compound state. Whatever be the value of the invention, however, as a means of obtaining a higher calorific power, in a given weight of fuel—a subject of the highest importance in steam navigation—it is certain that it possesses considerable merit as a mode of applying beneficially two nearly valueless articles—viz., coal dust and coal tar.

Still greater results are stated to have been derived from the use of a fuel composed of resin and peat coke. The effect of the combustion of a given weight of this fuel has been stated to be equal to three times its weight of coal; but it is evident that such an excess of calorific power is quite impossible to be derived from the fuel itself, and if it really take place it must be principally produced by some mechanical cause, and not by the chemical properties of the fuel. Resin is one of the purest of the ordinary bituminous substances; and supposing it to be wholly converted into carburetted hydrogen—which is certainly not the case, as it contains about 15 per cent. of oxygen—its heating power in comparison with coal would only be as 1:6 to 1:2; or the heat produced by its combustion would be about 60 per cent. greater than coal. It is probable, however, that these bituminous substances produce a species of mechanical effect, independent of their calorific power, for in consequence of the large quantity of hydrogen they contain, and which by combustion is converted into water and discharged from the furnace in a state of vapour, the gaseous products of the combustion are rendered so much lighter by this admixture, that they escape through the chimney with a greater velocity, and consequently a larger quantity of air is drawn through the flue bars, and a more rapid and more perfect combustion of the fuel is the result. In all cases of combustion the greatest amount of heat will be obtained from those substances that contain the largest proportion of hydrogen; for not only is this mechanical effect produced by the combustion of all those highly hydrogenated compounds, but the gas itself produces more heat than any other substance.

3. *On the Nature and Application of the Volatile Products of Coal.*—The preceding remarks on the combustion of coal have necessarily anticipated many of the observations which might here have been made upon the gaseous products obtainable by its distillation. One important division of the subject, however, yet remains to be mentioned—the application of these gaseous products of coal to the purposes of artificial illumination. The application of carburetted hydrogen gas to this purpose is well known to be an invention of comparatively a modern date, for although the existence of an inflammable gas derived from the distillation of coal was known so long ago as the year 1739, the first practical experiment on a large scale was not made until the year 1798. At an early period after its introduction Dr. Henry investigated the phenomena of its production and combustion, and we are indebted to him for a great deal of accurate research on the subject.

It has already been observed that the products of the distillation of coal vary much with the degree of heat to which it is exposed, and the rapidity with which the heat is applied. The quantity of the gaseous products also is much increased by employing a high temperature, for a large portion of the gas is then decomposed, and increases the quantity of gas, while at the same time this very objectionable substance is got rid of, to a very considerable extent.

The intensity of light obtainable from carburetted hydrogen varies greatly in proportion to the quantity of carbon it contains. The early products of distillation always contain too much carbon, as in every case an increase of light induces an increase in the density of the gas. A great difference is observable in gas from different qualities of coal. The gas obtained from the best coal is far superior in density, and consequently in illuminating power, to that from any other coal; but even this is very inferior in both these particulars to that derived from the decomposition of oil, which contains about twice the quantity of carbonaceous matter in a given volume, and its illuminating power is from two to two and a half times greater than gas from coal. One of the greatest improvements, therefore, in the chemical operation of distilling gas from coal would be to combine a larger proportion of carbon with the later products of the distillation. Carbon in its solid state of aggregation, either as coke or charcoal, does not readily combine with hydrogen; but it is evident that it is by no means impossible for these two substances to combine even to the highest degree of conversion, in the products of calcination, for a

of the carbon existing in a lower state of aggregation may combine more readily with the hydrogen, and form a dense gas, which is always given off first; and that, as this quantity of loosely aggregated carbon constantly diminishes as the process of distillation proceeds, the resulting gas also diminishes in specific gravity. From the present state of chemical knowledge, it is by no means improbable that an economical method of effecting this combination to a much greater extent than at present exists, may be discovered, which would then render this species of gas equal in value to that obtained from the decomposition of oil, and at a much less expense.

A method of obtaining carbureted hydrogen gas from the decomposition of tar and water was discovered in the year 1818 by Mr. Morey of the United States. This invention has lately been again brought forward, and patented in England as a new process. But, although the apparatus requisite for decomposing tar and water is exceedingly small compared with that necessary for distilling gas from coal, there are so many objections against its use that it is not likely it will ever supersede the use of coal gas. It was formerly used on an extensive scale in America, and afterwards laid aside, the process not answering so well as the original mode of obtaining the gas from coal.

Besides the products already mentioned which may be procured from coal, there are several others which are obtainable by different modes of treating the distilled products. All these, however, are merely different combinations of the carbon, hydrogen, oxygen, azote, and sulphur, which the coal contains, forming different substances under different circumstances. The ammoniacal liquor is the result of the combination of azote and hydrogens, which, forming ammonia, is absorbed by the vapors of water produced by the combination of the oxygen and hydrogens. Carbonic oxide, carbonate acid, and sulphurated hydrogen, are likewise produced, and exist as permanently elastic fluids, while tar, essential oil, naphtha, petroleum, asphaltum, and other substances, are obtained by subjecting the distilled products to peculiar treatment. A substance resembling fæces has also been obtained from coal, by treating the coal with nitric acid in a particular manner (*Philosophical Transactions*, 1805 and 1806).

Such is the general description of the properties and products of coal; and the following are the principal conclusions to which these observations lead.

1. The loss sustained in the combustion of bituminous coal, when the whole of the gaseous products escape unconsumed, amounts to about 37 per cent., with the usual description of caking coal. This quantity, however, must vary greatly in different kinds of coal; with some descriptions it will greatly exceed this amount, and others will fall as much below it.

2. The combustion of smoke may be accomplished in several ways. When the coals are supplied to the furnaces through a hopper, or by allowing them to pass gradually down an inclined plane, the effect is produced in consequence of a different gas being given off from the coal, by this mode of gradually heating it; thus when the coal is suddenly exposed to a high temperature, and this gas enters into combustion at a lower temperature, and requires less oxygen for its combustion than the gas produced by suddenly exposing coal to a high degree of heat. The second mode of consuming smoke is by introducing heated air into the furnace above the fuel. This obviously supplies a larger quantity of oxygen, and therefore enables the dense gases given off from coal when suddenly exposed to a high temperature to enter into combustion—one of the principal causes of smoke being a deficiency of oxygen to produce the inflammation of the gas. The third method of effecting the combustion of smoke is by injecting steam into either the furnace or the chimney; and the effect in this case is not produced, as generally supposed, by the decomposition of the steam, but is owing to the increased draught of the furnace causing more air to enter, by which the same result is produced by the last-described method.

3. The effects obtained by compound fuels composed of coal and other substances mixed with resin, coal tar, and other bituminous compounds, appear to be excessively overrated, for the great increase of effect which is attributed to them, cannot be reconciled with the known chemical nature of these substances. The increased effect which takes place in these cases is partly attributable to an increased draught and greater heat by the combustion of a larger quantity of hydrogens, and a still larger portion of the effect is probably owing to the greater care with which the experiments have been made, by which a large saving of fuel may always be effected.

4. As the production of light by the combustion of carbureted hydrogen gas depends upon the quantity of carbon which it contains, it is desirable that attention should be directed to the possibility of causing a larger quantity of carbon to combine with the gas usually obtained from the distillation of coal. A gas containing two volumes of gaseous carbon united to two volumes of hydrogen, has long been known, of which the illuminating power is more than double that of ordinary coal gas. A small portion of this gas is usually obtained among the distilled products of coal; and the present state of chemical knowledge renders it by no means improbable that a method of producing from coal a much larger quantity of this gas may be discovered.

MINING NOTICES.

[Under this head we purpose collecting such paragraphs as may appear in the provincial and other Journals, having reference to discoveries and improvements in mining operations at home and abroad. It is hardly necessary to observe, that we must not be considered to admit the correctness of the information conveyed, which, in too many instances, requires cautious investigation—the sanguine expectations of parties in some instances, and the want of honesty in others, throw a degree of responsibility on a Journal in giving publicity to reports, which we do not intend taking upon ourselves.]

MINING IN SPAIN.—Extract from a private letter, dated Madrid, October 30.—“The mining interest has made a practical step towards profits in the south of Spain. The discoverers and denouncers have convinced themselves that it is not alone sufficient to find mines, but money too, and that it is useless to go on searching for, and registering a hundred veins, while they have not money available to work one. This last and best discovery has led to union, and union is power. A junta of mine owners and ‘mining companies’ assembled lately at Velez Rubio, as a central point, to put their heads and means together ‘to work one good mine at least,’ and now they are in a fair way of doing something. The Britannia smelting-furnace at Alcante is also giving signs of life; the contractors had lately purchased, for a beginning, 500 quintals of galena, from the mine Ursupada, in Carrascoy, at the rate of 46 reals per quintal.”

NORTHERN COAL MINING COMPANY.—We understand that the misunderstanding which has subsisted for some weeks past between parties interested in the administration of the affairs of this company is now at an end, and that there are no obstacles to the full working of the company’s collieries, and the development of its resources.—*Durham Advertiser*.

DISCOVERY OF MINES IN ALGERIA.—The *Sentinel* of Touloύ states, that some veins of iron have been recently discovered in Algeria, equal in richness to those of the island of Elba; the locality is not mentioned.

MINE ACCIDENTS.

Explosion of Coal Air.—A letter was read at the Mansion House a short time since, from Joseph Bowes, Postmaster, Upper Canada, an Englishman, which the Lord Mayor deemed of sufficient importance to publish as a valuable discovery, by which the lives of many persons might be saved, particularly those employed in coal pits and other mines. The writer states that a man on descending a well for the purpose of making some repairs, dropped apparently dead; the man went down to his relief, and also dropped senseless; a woman, who was an eye-witness, thinking they had fainted, considering that water would restore them, as in other cases of suspended animation, threw a bucket which she had on her shoulder into the well; the effect was immediate; the staggered air was driven out of the well by the sudden fall of the water, and the two men recovered at once. In all probability a little longer exposure to the meagre air would have put an end to both. The writer goes on to say, “Now I have long thought that if a body of fresh water were poured down into a coal-pit where an explosion takes place, or is apprehended, the lives of multitudes might be saved; and that if suitable machines were erected for the diffusion of water amidst the subterranean operations, explosions would be a calamity of very rare occurrence.”

Berden, near Bolton.—On Wednesday week, a man named John Longworth was engaged with two others in the township of Great Lever, in sinking a pit belonging to the Earl of Bessborough, and as he was placing a ring round it to protect its sides, the brick-work gave way, and he was buried beneath the falling mass. The two other labourers narrowly escaped death.

Tremont Pit, near Littleton.—A young man named Meredith met his death in the Tremont Pit, belonging to the Cheltenham Protector Coal Company, by several tons of earth falling upon him.

Pitfall, near Colneford.—On Tuesday last a man named Bianchi, working in Mr. Bianchi’s coal level, at the Pitfall, near Colneford, had his leg broken by a quantity of coal falling upon him. On the same day one of the men employed at the Success coal level, also at the Pitfall, the property of Messrs. Trotter, Thomas, and Co., had his thigh broken; he was passing behind one of the carts of coal, when some heavy stones fell on him from the roof.

Blandford Colliery, Wigan.—A poor man named Moncrieff lost his life at one of Mr. Moncrieff’s collieries, situated in the Manches, Wigan.

Chamber Hall Colliery, Oldham.—On Monday last a boy, six years of age, named Thomas, was in error as a waggoner in Chamber Hall Colliery, Oldham, when a waggon ran against him, injuring him so severely that he died in a few moments after.

Cyfarthfa Iron Works.—As W. Meyrick, miller, at Cyfarthfa Iron Works, was sitting down after the day’s work, only waiting the boiler to come in, he knocked a stone that was above his head in order to see if there was any danger likely to result from it, when most unexpectedly it came down on his hand, and killed him on the spot.

Marion Limestone Quarry.—An inquest on the body of child of 18

R. Powell, haulier, Penydarren, who was killed under the train of the quarry, a verdict of “accidental death” was recorded, with a dividend of sixpence each on three wheels that had passed over the body.

Plymouth Works.—Two men were severely burned by an explosion of fire-damp in the collieries at Plymouth Works.

Walbridge Colliery.—An accident occurred at Walbridge Colliery, near Chester-in-the-Street, on Thursday morning, by the breaking into the mine of a large quantity of water; between sixty and seventy men and boys were below when the rush of water took place, but were, fortunately, enabled to effect their retreat into some old workings, from which they were afterwards safely brought to the bank; their escape may be considered as truly providential.

Hafod Colliery.—Abel Harper, a miner, was killed, whilst at his work in this mine, by the falling of a large stone.

Wheel Croft Mine.—On Saturday last, Henry Williams, who was employed in wheeling stuff at Wheel Croft Mine, by some accident fell down the mine, a depth of ten fathoms; he was very severely injured, but some hopes are entertained of his recovery.

Charlestown United Mines.—On Saturday last, an inquest was held at Charlestown Mines, before J. Hamley, Esq., coroner, on the body of John Dumble, aged thirty years, whose death was caused by a piece of timber falling on his head, and throwing him out of the ladder.

Dreadful Explosion.—A melancholy accident occurred in Manchester, on Wednesday last, occasioned by the bursting of the boiler of a steam-engine, on the premises of Messrs. E. & Co., of Jersey-street, Ancoats, by which seven men were killed and many others severely injured.

MISCELLANEA.

Arago’s MAGNETIC OBSERVATIONS.—M. Arago has communicated to the Academy of Sciences, Paris, the result of some magnetic observations, taken simultaneously at different points of the earth’s surface, by order and under direction of the British Scientific Association, aided by the British Government; these results tended to show great variations in the intensity and direction of magnetic forces.

Fossil REMAINS.—We learn, from the Irish papers, that an interesting discovery of fossil remains has lately been made in the county Longford. It consists of a fine skull and other portions of the female skeleton of the *Cervus megaceros*, or fossil deer of Ireland. The male skeleton is of frequent occurrence, and the desideratum to comparative anatomists of any portion of the female skeleton is thus obtained. Mr. J. Kraatz, of Berlin, and Dr. Buckland, it is said, both concur in stating this to be the first specimen they ever met with. The superciliary holes or openings, supposed by Cuvier and others to be for the purpose of admitting blood-vessels to nourish the horns in the male, in the present specimen measure two inches and a half in circumference, while in the male skeleton they have never been found to exceed one inch and three quarters. This skull proves the female to have had no horns.

ANTEDILUVIAN TIMBER.—The men who sank the well at the Nenagh Union Workhouse, after descending more than fifty feet through hard gravel, containing abundance of large stones, came upon a substratum resembling bog mud, where they discovered a portion of a trunk of black oak, fragments of which they broke off, and distributed amongst the lovers of antique relics; the wood appears rather decayed, though it still retains much of its original soundness.

UNDERGROUND FOSSILS.—The workmen of Messrs. Lyddon, of Withiel Florey, in Somersetshire, while employed in draining on an estate of theirs, called Swans, discovered an oak tree of considerable size, lying in a horizontal position, about two feet and a half under ground; subsequently, they came upon another, lying in the same direction, and at about the same depth, and measuring in circumference nearly six feet, both of which are in sound condition, and even retain their bark.

SHOWERS OF FISHES.—On Thursday afternoon, during a heavy thunder shower, a considerable number of small fishes fell from the clouds, at the Town-hill, about a mile north-east from Dunfermline. They were in general from two to three and a half inches in length, and although they must have fallen from a considerable height many of them were alive after they fell, and jumping among the grass.—*Perseverance paper*.

ARTESIAN WELL AT GREMELLE.—It is now quite certain that the waters of the Artesian well, at Gremelle, will not become clearer. It is seven months since it began to throw up water, and although it has yielded 60,000 litres, at the rate of 200 litres per minute, the water is about as muddy now and as undrinkable as it was the first day.—*French paper*.

ARTESIAN WELL AT SOUTHAMPTON.—The shaft of the Artesian well, on the common, has now been sunk to the depth of 448 feet, and the soil continues still exceedingly favourable. It is expected that the sands which lie between the plastic clay and the chalk formation will very shortly be reached, and preparations have been made by the clever engineer, Mr. Doccas, to overcome any difficulties that may arise.

THERMAL SPRING AT GRENOBLE.—The French Academy of Sciences have been called on to appoint a commission for inquiring into the best way of conveying into the town of Grenoble the waters of a thermal spring, which was situated rather more than eighteen miles from the town; it broke out in the bed of a mountain torrent, and was in such a position that it was impossible to establish baths there; the heat of the water was very great, being from 58 to 60 degrees of the centigrade scale, or from 137 to 140 of Fahrenheit’s.

ABSORBING WELLS.—The Council General of the department of Isere has voted the sum of 1800 francs for the application of absorbing wells to the drainage of the numerous ponds and marshes in the neighbourhood of Bourgoin; the principal engineer of the mines, Guignard, on whose report the grant has been made, is to superintend the first experiments; if, as it is believed, there lies between the diluvial soil and the turf or peat of these marshes a stratum of clay, it will only be necessary to penetrate through it to attain the sand and diluvial gravel, which form the subordinate strata, and the success of the undertaking will then be placed beyond all doubt. The drainage of the bogs of Vervilliers, Bourgoin, and Le Tour du Pin, will of course follow; and those of Dauphiné, which up to this period have been so unprofitable, will develop a new source of riches for a country which has hitherto only considered them as a serious inconvenience. Should the absorbing wells have the success which we anticipate, the turf districts of Bourgoin will assume, in regard to Lyons and Grenoble, the same importance as those of Moneym and the department of the Eure have held in relation to Paris and Rouen. Every one is aware that turf has the property of carbonisation like wood.—*Courrier de Lyons*.

IMPORT OF SPECIES.—The importation of species is now extending rapidly. The amount of silver brought in this week exceeding 1,600,000 dollars; of this sum 900,000 dollars are from Mexico, 600,000 from the United States of America, and 150,000 from the Brazil; with such ample supplies we can have nothing to fear on the score of exchange.

CAST-IRON ORNAMENTS OF BERLIN.—The raw ore from which they are manufactured does not cost more than 12. 6d. per cwt., but wrought into cast-irons the value becomes 273*l.* 2*s.* 6*d.* per cwt., and made into shirt buttons about 300*l.* per cent. It would not be easy to point out any other metal in which art can increase the value of the raw material 40,000 fold.

ENCOURAGEMENT TO THE FORMATION OF RAILWAYS ON THE CONTINENT.—The St. Petersburg papers to the 2d instant contain some interesting particulars of a projected railroad from Warsaw to Vienna, towards the construction of which the Russian Government affords the greatest encouragement, guaranteeing to the shareholders a minimum interest of 4 per cent., permitting duty free the importation of iron rails and machines, and allowing the company to cut down in the imperial forests whatever timber may be required. The crown cedes the ground gratuitously in every case where the railroad passes over Crown lands, and in every instance private landowners are said to have shown a readiness to sell the required ground at less than its real value; these advantages, with the remarkably level character of the country, will enable the company to construct the railroad at a comparatively small expense, and a portion of the profits are to form a sinking fund, to buy up gradually the shares of the company, in order that the railroad may eventually become public property.

GIGANTIC CHIMNEY.—A chimney of extraordinary dimensions is being built at St. Helens Chemical Works, and will, when completed, be elevated upwards of 600 feet above high-water level at the Brindleside; it is founded upon a bed of solid sandstone rock, twenty feet below the surface of the ground; the diameter of the outer chimney is fifty feet at the foundation, forty feet diameter at the surface of the ground, and will diminish in one continuous curved line of “beater” to a diameter of four feet six inches, when it will have attained an altitude of from 420 to 450 feet. The inner chimney is a cylinder of sixteen feet diameter, rising perpendicular to a height of 200 feet. This inner chimney is surrounded with

the outer one, but comes very nearly in contact at its termination, affording only space for the expansion arising from the temperature. The flues from the various parts of the extensive works are introduced into the inner chimney through four circular apertures, each seven feet six inches diameter; both chimneys are built with brick; between the sandstone rock and the brick footings there is a layer of concrete, four feet thick, composed of small broken whitestone and cement. The bricks used are from Heathfield Brick Works, and are of a very superior description, being a composition of common clay and fire-clay, containing a small portion of iron ore.

THE FELKINGTON ESTATE.—This important estate, in the north of England, was sold, on Wednesday last, at Garraway’s, and produced £2,700*l.*; it comprises two farm-houses, with complete ranges of agricultural buildings, ten cottages, school-house, and blacksmith’s forge, surrounded by four inclosures of desirable land; containing in the whole 82*a.* 2*r.* 3*s.* elegantly situated in the parish of Norham, in the county of Durham; together with the valuable colliery of Felkington, and fourteen labourer’s cottages attached; the colliery, it is said, is capable of producing coal of the finest quality, to an almost unlimited extent; the whole is let on lease to respectable tenants, and producing an income of 75*l.* 1*s.* per annum.

IRON TRADE.—Great excitement has prevailed in the iron trading during the last week, in consequence of the stoppage of the firm of Ball and Co., of London; we are glad to hear that only one or two firms in the Staffordshire district are likely to be losers by the failure.—*Worcestershire Chronicle*.

CALCULATING MACHINE.—There are few efforts of the mind more fatiguing, more irksome, dry, and monotonous, than the drudgery of making long calculations; and, from time immemorial, the ingenuity of man has been directed to the discovery of some contrivance whereby this wearisome labour might be lightened or abridged. At length this long-sought desideratum appears to have been obtained; for the last two years Dr. Roth, of Paris, has been engaged in the construction of arithmetical machines, and the success that has attended his efforts hitherto proves he has accomplished his scheme for performing automatically all the operations of arithmetic, from simple addition, subtraction, multiplication, and division, to vulgar and decimal fractions, involution and evolution, arithmetical and geometrical progression, and the construction of logarithms, with ten places of decimals; the machine in its present state works addition, subtraction, multiplication, and both kinds of progression, quite mechanically; in division alone the attention is required to avoid passing over the cipher; the arithmetical progression is of vast importance, as it operates from one figure to millions of pounds sterling; and when we consider the variety and utility of the functions performed by a small instrument, not more than a foot wide, and its comparatively insignificant price, we cannot but congratulate the inventor on his decided success in the results hitherto obtained, and express our cordial wishes that he may meet with every encouragement to persevere in his highly interesting and important labour. Mr. Wertheimber, the proprietor and patentee of this invention (which has received the approval of royalty) has two descriptions of these machines—a larger one which performs sums in addition, subtraction, multiplication, and division; and a smaller, which performs addition and subtraction only. The machines have been submitted to the inspection of several gentlemen eminent for their scientific attainments, all of whom, particularly Mr. Babbage (himself the inventor of similar machines of much ingenuity) have expressed the most unqualified admiration of their unparalleled ingenuity of construction.

FROM THE LONDON GAZETTE.

Tuesday, October 12.

INSOLVENTS.

Oct. 9.—James Poole, Sheffield, writer.

Oct. 10.—Robert Lucas, Bristol, ironmonger.

Oct. 12.—George Miles, Oxon-street, chandlermonger.

BANKRUPTCIES ANNULLED.

Joseph and Joseph Price and James Purdy, Yeovil, Somersetshire, manufacturers. Thomas Jones Phillips, Newport, Monmouthshire, attorney.

BANKRUPTCIES.

J. S. Clark, Angel-court, Throgmorton-street, broker. (Stephens, Northumberland-street, Charing-cross.) W. Montague, Oxford-street, haberdasher. (Lloyd, Cheshire.) F. Poole, Bedford, tailor. (New, Dyers’ buildings, Holborn.) F. L. Byrne, Liverpool, wine-broker. (Balmond and Goway, Gray’s Inn.) R. Baldwin, W. H. Baldwin, and O. E. Ewart, Canterbury, bankers. (Richardson and Talbot, Bedford-street.) J. Edwards, Hungerford, Berkshire, wine-merchant. (Brammer, Blackfriars.) F. Morris, Chelmsford, timber merchant. (White, Norfolk, wine-merchant.) J. Mason, Lime-street square, merchant. E. Underhill and J. Baker, Walling-street, warehousemen. (Winter, Blue Bell-yard, St. James’s-street, wine-merchant.) N. Norton, Blackman-street, Southwark, and East India, Norfolk, wine-merchant. P. A. Compton, Buxton and Lee, Kent, surgeon. J. Barber, Watford-road, pawnbroker.—J. Ward, Woolwich, banker. J. Maxfield and G. Blomkamp, Watling-street, warehousemen.—F. B. Walton, Liverpool, silk-merchant.—R. Holden, Manchester, bookseller.—G. Dickson and R. George, Liverpool, seed merchants.—C. Lowe, Liverpool, attorney-at-law.—W. Croft, Cheshire, Sandy, Bedfordshire, market-gardener.—H. Taylor, King-square, Birmingham, corn-merchant.—H. and C. Grove, Birmingham, grocer.—H. W. Womack, Bristol, marble-mason.—W. S. Denton, Carlisle, builder.—T. Parker, Buxton, Cumberland, butcher.—A. Lewis, Gorton and Manchester, manufacturer.—E. J. McKey, Dublin, merchant.—R. J. Miller, Bristol, nurseryman.—S. J. Hayward and W. C. Fletcher, Manchester, booksellers.—T. Taylor, Liverpool, bookseller.—W. C. Perry, Liverpool, bookseller.—H. Brown and J. H. Bradley, Gloucester and Birmingham, merchants.

DIVIDENDS.

Nov. 4.—R. Bowley, Mining-lane, and Doddington-grove, Newton-le-Willows, bricklayer. J. Farnell, Bradford, Yorkshire, woollen-manufacturer.—J. Paulkin, Jon. Danvers’ wharf, Cheshire. W. Montague, Oxford-street, haberdasher. (Lloyd, Cheshire.) J. Poole, Bedford, tailor. (New, Dyers’ buildings, Holborn.) F. L. Byrne, Liverpool, wine-broker. (Balmond and Goway, Gray’s Inn-square.) J. Bamford, Plymouth, porter-mERCHANT. (Lane and Co., Goldsmith Hall, Finsbury, Middlesex.) W. Freeman, Birmingham, woollen-cloth manufacturer. (Preston, Finsbury.) H. D. Holt, Liverpool, glass manufacturer.—J. W. Smith, Birtley’s passage, Fetter-lane, stationer.—W. F. Morris,

